

Worldwide Construction Management
Telephone: 01-422 3488
Telex: 922810

Bovis

FINANCIAL TIMES

No. 27,522

Friday March 31 1978

*15p

LONGINES

World's Most Honoured Watch

CONTINENTAL SELLING PRICES: AUSTRIA Sch.15; BELGIUM Fr.25; DENMARK Kr.3.5; FRANCE Fr.3.0; GERMANY DM.2.0; ITALY L.500; NETHERLANDS Fl.2.0; NORWAY Kr.3.5; PORTUGAL Esc.20; SPAIN Ptas.40; SWEDEN Kr.3.25; SWITZERLAND Fr.2.0; IRE 15p

NEWS SUMMARY

GENERAL

Nkomo fears of guerillas abduct children

Black nationalist guerillas loyal to Mr. Joshua Nkomo, co-leader of the Patriotic Front, abducted 120 black Rhodesian school-children and 12 teachers and took them over the border to Botswana.

Last night, Botswana said that 84 of the children had asked to return to Rhodesia and transport could be arranged. The remainder had opted to stay.

The children who are boys and girls, aged between 13 and 20, were escorted at gunpoint from the mission school, the Methodist Church in Rhodesia said.

In Salisbury, the four-man Supreme Executive Council met again without naming the planned 18-man Ministerial Council. The Rev. N. Sibhelo, a member of the four-man team is a former pupil of the mission school. Page 4

Barre may head new Government

President Giscard d'Estaing, who received Mr. Raymond Barre, Prime Minister, last night, has summoned a meeting of his outgoing Cabinet for to-day. Mr. Barre is expected to be asked to lead the new Government which is likely to be formed early next week. Page 3

Tanker depth charged again

French naval helicopters depth-charged the wrecked super-tanker, Amoco Cadiz, for the second successive day in the hope of draining any remaining oil. Six British ships patrolled south of Guernsey as oil patches approached the Channel Islands.

MPs on the air

Live radio broadcasting of Parliament is to begin on Monday. The chief attractions at the outset will be Prime Minister's Question Time twice weekly and Chancellor Denis Healey's Budget on April 11. Back Page

Soccer arrests

After seeing their team beaten in the European Cup semi-final, first leg, rampaging Liverpool fans looted a cross-channel ferry duty-free shop and stripped a motorway shop at Colchester. Up to last night there had been 23 arrests.

Cricket bar

The West Indies Cricket Board of Control has banned all players contracted to Kerry Packer's World Series Cricket from taking part in further matches during Australia's tour of the Caribbean.

Aid for Gypsies

Gypsies in Britain and Ireland are to get help from a £40,000 project and education project on Gypsy life under an EEC £420,000 anti-poverty programme.

Briefly...

The Queen and other members of the Royal Family are to get pay rises, the Treasury said.
Mr. James Callaghan, Prime Minister, arrived back in London after spending a week in Washington.
Twelve passengers were injured in a rail accident on Southern Region's Waterloo to Basingstoke line.
Olga Korbut, 22, the Soviet Olympic gymnast, has retired from the sport, it was reported in Moscow.
Mr. David Duke, Ku Klux Klan leader, who has been served with a deportation order, left Britain yesterday of his own free will.
Two miners were crushed to death at Lady Windsor colliery, Wrexham, Glamorgan.
The Norwegian explorer, arrived at Djibouti aboard his reed boat, Tigris, four months after leaving the Euphrates estuary.

CHIEF PRICE CHANGES YESTERDAY

(Prices in pence unless otherwise indicated)

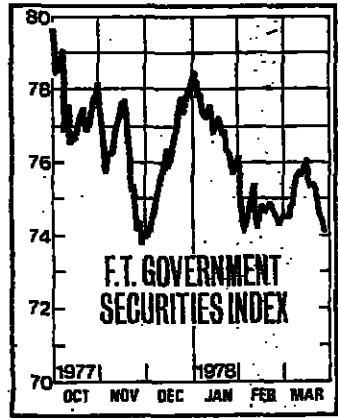
BISSES		
Berford (S. & W.)	222	+ 6
Eldon Hides	84	+ 3
Gill and Duffus	222	+ 9
Gough Copper	74	+ 4
Hinton (A.)	93	+ 5
Lilley (F. J. C.)	72	+ 5
Lucas Inds.	276	+ 7
Marchwell	276	+ 7
Pire Holdings	300	+ 5
Reckitt and Colman	428	+ 10
S. & U. Stores	121	+ 21
Sutcliffe Parkes Bernet	243	+ 8
Stanley (A. G.)	123	+ 10
Western Motor	93	+ 5
Royal Dutch	546	+ 14
Berglund	230	+ 5
Cons. Gold Pld. Aust.	230	+ 5
Conzinc-Rhotinto	188	+ 13
MTAL Hides	183	+ 13

FALLS		
Treas. 12pc 1988	107	- 1
Escheq. 15pc 86	112	- 1
Aurora Hides	84	- 4
BB	47	- 3
Bridon	98	- 10
House of Fraser	145	- 6
House of Loree	57	- 4
Martin (R. P.)	54	- 8
Primrose Ind. Hides	78	- 6
Rotary	115	- 7
UDT	40	- 3
Wagon Finance	91	- 6
Durban Deep	232	- 12
Groffier	91	- 7
Northern Mining	190	- 19
Ventersport	190	- 19

BUSINESS

Fears of interest rate rise hit gilts

GILTS were affected by growing concern about a possible rise in short term interest rates and recorded losses extending to 1978.



tending to 3. The Government Securities Index fell for the fourth successive trading day, closing 0.39 lower at 74.05.

● EQUITIES were subdued by interest rates fears. The FT 30-share index closed 0.4 lower at 467.7.

● GOLD fell 11 to 179 in nervous trading.
● STERLING fell 2.05 cents to \$1.8615. Its trade-weighted index was 62.2 (62.8). The dollar's weighted average narrowed to 6.03 (6.04).

● WALL STREET closed 2.16 lower at 759.62.

● U.S. MONEY supply: M1 \$340.7bn. (\$338.6bn.); M2 \$821.2bn. (\$818.3bn.); commercial and industrial loans at major banks up \$251m. (down \$25m.); Fed funds 6.82 (6.77) per cent.; 90-119 day commercial bills unchanged at 6.75 per cent.

Leyland regains market lead

● LEYLAND has regained leadership of the U.K. market from Ford with more than 28 per cent of sales this month. It had 21 per cent at the beginning of the year. Back Page

● THE U.S. and West Germany have started detailed preparations for the Western Economic Summit Conference in Bonn in mid-July. Relations between the two have improved markedly. Back Page

● GAS from the North Sea might be used to generate electricity. Page 8. Norway has reduced its estimates of oil production and revenue. Page 2. British estimates, Page 27

● MR. MAURICE HODGSON takes over the chairmanship of ICI to-morrow. The company's annual report shows the chairman's salary was £95,000 last year. Mr. Hodgson said his take-home pay would be about £25,000, while a comparable job in the U.S. would give £250,000. Page 15

● ASLEF, the train drivers' union, has been told by an inquiry panel to sort out its grievances within British Rail's existing procedures. Page 10

● PRESIDENT CARTER and the president of United States Steel clashed publicly over the 2 per cent rise in steel prices which the company announced on Wednesday. Page 32

● INDIA has called on foreign companies producing "low technology" drugs to reduce their equity holdings in local subsidiaries to 40 per cent. Page 33

COMPANIES

● LUCAS Industries pre-tax profit fell to £27.61m. (£34.87m.) in the half year to January 31, 1978, reflecting the effects of its toolroom strike. Page 28 and Lex

● HOUSE OF FRASER raised pre-tax profit 30.8 per cent. to a record £36.2m. in the year to January 28, 1978. Page 28 and Lex

City launches new securities body to control standards

BY MARGARET REID

A new voluntary system for the regulation of London's securities markets was launched yesterday under the aegis of the Bank of England. The new body, to be known as the Council for the Securities Industry, is to be headed, as expected, by Mr. Patrick Neill.

Mr. Neill, who is 51, is the Warden of All Souls College, Oxford, and chairman-designate of the Press Council.

The securities council is the outcome of an attempt by the City to fend off the possibility of a legally-based supervisory authority on the U.S. model. Eighteen months ago the Government issued a call for an improved system of voluntary supervision.

Maintenance of the highest ethical standards in conducting business in the securities industry is the first of a number of objectives of the 20-member body listed by the Bank of England yesterday.

The council, whose launching has been blessed by Ministers, will be backed by the various City associations, as well as the Confederation of British Industry, in spite of protests by some Labour MPs at its lack of legal powers.

A levy of 60p on deals of over £5,000 in U.K. stocks and shares is to provide the bulk of the £500,000 annual cost of the council, including the City Take-over Panel, which will continue



MR. PATRICK NEILL

much as at present, but perhaps with wider duties as an arm of the council.

The various City bodies will make some contribution to the cost and the Bank of England will stand ready to make up any shortfall in the financing. Lord Shawcross, the former

Attorney-General who is 76 and has been chairman of the panel throughout its nine-year life, is to remain in that role and will be a member of the new council ex-officio.

Heavier duties will fall on Sir Alexander Johnston, 72, the one-time chairman of the Board of Inland Revenue, who is deputy chairman of the panel. He will also take on the job of deputy chairman of the new council and so will provide an important link between the two bodies.

Much remains to be defined about the exact method of operation of the council, which is expected to meet at least once a quarter, and the way in which complaints or problems would come to it.

Matters within its ambit are likely to include cases of alleged insider trading and objectionable share deals by directors of companies, at least until the Government brings forward its intended legislation relating to these matters.

Supervision of the securities market is the main theme of the Council for the Securities Industry. Continued on Back Page Editorial Comment, Page 18

Weizman mission fails to revive peace talks

BY OUR FOREIGN STAFF

PRESIDENT Anwar Sadat of Egypt and Mr. Ezer Weizman, the Israeli Defence Minister, yesterday failed to agree on terms for a resumption of the peace negotiations which were broken off in January.

After two hours of talks, an Egyptian official said: "The state made a decision to continue the negotiations until Israel changes her position and progress is achieved."

Until Israel shifted its stance, the military and political committees, set up after Mr. Sadat's peace initiative and mission to Jerusalem last November, would not resume their work.

Continued deadlock seemed a foregone conclusion after the Israeli Government's decision not to alter the peace plan which it presented just before Christmas—particularly on the question of Palestinian self-determination—or to agree to abandon Israeli settlements in occupied Arab territories.

Mr. Menachem Begin, the Prime Minister had hoped that

proposals submitted by him to President Carter last week would open the way for a resumption of direct contacts and a mutually acceptable declaration of principles. Optimism, however, rested only on the emphasis placed on Israel's willingness to allow Palestinians—though not the Palestine Liberation Organisation—to participate in talks about the future of the West Bank and to keep in abeyance for five years the question of sovereignty over the territory.

Mr. Sadat, in public, is still adamant that the Israelis should withdraw from all Arab territories occupied in 1967 and that Jewish settlements on them should be dismantled, especially those in Sinai.

In Israel, the view was that Mr. Weizman's trip to Cairo was an exploratory one. It was emphasised by the fact that his visit was officially treated in a very low key—his trip was not confirmed until lunch time after he had departed.

The Egyptian Government is

believed to have wanted the visit kept secret but it was reported by Israeli newspapers earlier this week.

Mr. Weizman was accompanied by Mr. Ezer Natan, the Government's chief legal adviser, which suggested that the question of Jewish settlements would be a matter of priority. The talks were also attended by General Mohammed Abdel-Ghani Gammassi, Egyptian Minister of War.

In the continued absence of Jordan and Syria from the negotiating process, it was believed that the Israeli Defence Minister might have been probing the possibility of a pact falling short of a full peace agreement—involving further demilitarisation of Sinai.

extension of the U.N. buffer zone and a large-scale Israeli withdrawal—though not to the internationally recognised boundary or the pre-June 1967 ceasefire line between the two states.

More Middle East news Page 4
Troubles build up for Sadat Page 18

Zambia cuts sales of copper

BY MICHAEL HOLMAN

LUSAKA, March 30.

ZAMBIA, the world's second-largest copper exporter, announced to-day that it had been forced to cut all sales negotiated for 1978 by 15 per cent, starting with deliveries for May. Deliveries under long-term contracts to Western countries (including Britain, Japan, India and China) will be affected.

In announcing the force majeure declaration, the country's metal-marketing corporation (Menco) blamed "production and transport constraints" which would take "quite some time to overcome."

Land-locked Zambia's transport difficulties have been worsening over the past six months aggravated by the closure of previous export routes and a shortage of spare parts and equipment.

John Edwards, Commodities Editor, writes: Copper prices jumped sharply on the London Metal Exchange on the news that

10,000 tonnes are believed to be stockpiled at the mines. The problem is caused by a 90,000-tonne backlog of Zambian imports at Dur, which now handles nine-tenths of Zambia's trade. The backlog is due to inadequate handling facilities, a shortage of wagons on the Tanzania-Zambia Railway, and a scarcity of trucks on the road link between the two countries.

The position is further aggravated by a slow turn-round of wagons once they reach Zambia. Production difficulties include a shortage and high turnover of skilled expatriate workers. About 4,000 are working on the copper belt, between 500 and 1,000 short of requirements. In addition, the country's foreign exchange and transport problems have led to a shortage of spares and equipment.

John Edwards, Commodities Editor, writes: Copper prices jumped sharply on the London Metal Exchange on the news that

Zambia was going to declare force majeure, even though it had been anticipated for some time. But values eased in later trading when the cut was announced at 15 per cent, starting from May, since the market had been forecasting a reduction of at least 20 per cent.

Based on last year's reduced Zambian output of 680,000 tonnes—the lowest level for ten years—the 15 per cent cut in sales is equal to 97,500 tonnes a year or just over 8,100 tonnes a month. This compares with world stocks of copper estimated to exceed 2m. tonnes, with nearly 800,000 tonnes in the London Metal Exchange warehouses in Europe.

There is thus no shortage of copper supplies. But prices have risen by nearly £100 a tonne to more than £700 a tonne in the past month in anticipation of production and sales cuts by producers suffering heavy losses at present market price levels.

Details Page 39

CONTENTS OF TO-DAY'S ISSUE

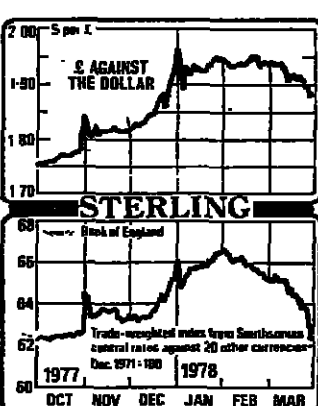
European news	33	Technical page	11	Intl. Companies	22-33
American news	5	Management page	15	Euromarkets	32
Overseas news	4	Arts page	17	Wall Street	28
World trade news	6	Leader page	18	Foreign Exchanges	28
Home news—general	7-9	U.K. Companies	28-31	Farming, raw materials	39
—labour	10	Mining	31	U.K. stock market	40

FEATURES

Trouble brewing up for Mr. Begin	18	Tunisian economy: Sudden chill	4	Around Britain: Mid-Wales 16
North Sea oil: Problems beneath the surface	27	Austrian exports	6	New Zealand airline merger 33
Greece: Karamanlis and his opposition	2	Urban decay: "Reversing engines of exodus"	12	F.T. SURVEY Communications
				19-26

Appointments	14	Money Markets	28	ANNUAL STATEMENTS	
Business for Sale	14	Property	30-32	AC Cars	31
Crossword	15	Racehorses	35	APV Hides	29
Entertainment Guide	16	Share Information	42-43	Anglo Amer. Ind.	29
Food Prices	39	To-day's Events	24	Bridges	34
FT/Advertiser Index	42-43	TV and Radio	26	Credit Insurance	34
High Treas.	44	U.S. Metal Hides	34	Grain	35
Letters	21	Weather	40	Grain	35
Lex	22	West Lothian Rates	42	Repsol & Burren	36
Lombard	23			Repsol & Burren	36

For latest Share Index: phone 01-246 8026



Pound falls sharply

By Peter Riddell, Economics Correspondent

STERLING fell sharply yesterday in face of heavy and persistent selling in the afternoon. The trade-weighted index closed at its lowest level since August.

The pound declined by 2.05 cents during the day to \$1.8615, the lowest sterling level since mid-December, after touching a low of \$1.8587. It improved a little in New York later to close at \$1.8657.

The trade-weighted index declined by 0.6 to 62.2, below the level when the pound was allowed to float freely in October. This compares with 63.9 a week ago and represents a decline of 61 per cent. since the peak at the end of January.

Dealers said there was no significant attempt by the authorities to halt the decline which they attributed partly to increased concern about the U.K.'s current account prospects later this year, while the pessimistic assessment of the medium-term outlook from the Cambridge economic policy group may have influenced sentiment.

The decline in sterling in the last few days may have been affected as much by market reaction to the stabilisation of the dollar against the stronger European currencies and also the removal of immediate fears about the French franc after the recent elections. Consequently, operators who had built up sterling positions to hedge against the dollar may be switching out now.

The sizeable decline in the trade-weighted index in the last two months is a mixed blessing for the authorities. On the one hand, the fall eases some of the growing concern earlier this year in industry and in Whitehall about the erosion of the competitive position of U.K. goods. Sterling is, for example, lower against the West German mark than at the worst period of autumn 1976.

However, the fall in sterling also means that the 10-month decline in the cost of industry's raw materials is now almost certainly over.

BP to invest a record £1.25bn.

BY RAY DAFTER, ENERGY CORRESPONDENT

BRITISH PETROLEUM expects to invest a record £1.25bn. this year, 57 per cent. more than last year. About half the money will be spent in the U.K., particularly on offshore exploration and production.

The investment programme, outlined yesterday by Sir David Steel, chairman of BP, means that the company is returning to the record levels of expenditure during 1976 when the development of the Trans-Alaskan pipeline and the big Forties Field in the North Sea accounted for the bulk of the £1bn. spent.

About £500m. is earmarked for oil and gas exploration and production this year. The annual report confirms that BP is planning to spend £1.25bn. over the next few years on the development of the Magnus Field in the North Sea.

However, capital allowances for the Magnus development can be claimed against the Forties Field tax bill.

Sir David said that about £200m. would be invested at a number of the company's refineries. Although the industry had been hit by serious refining over-capacity in Europe—a problem he said, which had to be tackled by both governments and companies—there was a need for more facilities to make high grade oil products.

It was important to prepare refineries for the day when oil would be scarcer and more expensive and reserved primarily for chemical manufacturing and transport needs.

Of the remaining planned investment, about £200m. would go into the group's marketing operations and a further £200m. on expanding chemical activities.

New image

Although BP would be changing more funds into its growing coal business, the group had no plans for major diversification outside its existing sphere of operations.

However, the company is planning to change articles of association to reflect its growing international image. Shareholders will be asked at the annual meeting on May 4 to endorse a move aimed at lifting a ban on non-British directors of the company.

We fear it is discriminatory to say a director of this company must be British," said Sir David. "We are international and it is right that we should be seen as such."

While there was no immediate intention of appointing foreign directors, it was recognised that at some future date a Board member from outside the U.K. might provide valuable

help and experience. The proposed changes—which would also end a ban on Board meetings being held outside England—would pave the way for the day when the U.S. oil group, Sohio, became a subsidiary of BP. It is possible that a Sohio director will eventually join the BP Board.

BP's stake in Sohio grows as the flow of oil through the Trans-Alaskan pipeline builds up. By this summer the volume should reach 1.2m. barrels a day, giving BP a 51 per cent. interest in the U.S. company. Sohio would be consolidated into BP's accounts, although it would continue as a U.S.-managed company.

BP Chemicals investment, Page 7
Men and Matters, Page 18
North Sea oil problems, Page 27
Annual report, Page 30
Lex, Back Page

Sir David also confirmed that BP had been involved in informal and unofficial talks about the State of Alaska's possible involvement in the pipeline system. The group has a 15.84 per cent. interest in the pipeline with Sohio holding a further 33.34 per cent. stake.

Mr. Robert Adam, a managing director, said that the possibility of a State involvement in the pipeline had been known about since 1970. BP had always been interested in such a proposal. However, any proposal must come initially from the State of Alaska.

There were now more hopeful signs that a trans-U.S. pipeline would be completed to carry Alaskan crude from the West Coast, Mr. Adam added.

In the meantime, Sohio and BP had taken steps to carry much of the oil to the East Coast via the Panama Canal. "One doesn't envisage oil being left in the ground," although it was recognised that the West Coast alone could not absorb all of the Alaskan output.

In the U.K., Sir David said that BP was now spending £4m. a year merely on providing the government with information about its business operations, taxation liabilities and North Sea plans.

"It is an onus on our people who have to produce bits of paper but who are never quite certain why these bits of paper are needed."

In New York

	March 30	Previous
Spd	\$1.8650-1.8660	\$1.8795-1.8805
1 month	0.00-0.00 1/2	0.00-0.00 1/2
12 months	0.00-0.00 1/2	0.00-0.00 1/2

Mr Square Footage's industrial services

Sale, letting, purchase and valuation of factories and warehouses

Knight Frank & Rutley
20 Hanover Square London W1R 0AH
Telephone 01-629 8171 Telex 265384

Bonn welcomes effect of U.S. accord on markets

BY JONATHAN CARR

— BONN, March 30.

SENIOR West German Government officials believe that this month's accord with the U.S. on steps to help stabilise the dollar is fulfilling its objective and that there is a fair chance of relative calm in coming months on the exchange markets.

This assessment is in large measure shared by the Bundesbank. It reflects strong West German satisfaction at America's readiness to act more positively to support its currency and to attack the basic problems underlying the dollar's fall.

In an interview, State Secretary Manfred Lahnstein of the Finance Ministry stressed that the sums involved in the new accord (including a doubling of the federal reserve swap arrangement with the Bundesbank) were not in themselves the key factor. Had they been, no new accord would have been needed since

the sums already agreed between the two countries in January had not been used up.

The essence of the issue was political, Herr Lahnstein said — a readiness to enlarge the scope of possible action clearly to show you cared about the problem and were prepared to deal with it. This was why the German side was so positive about the role of the U.S.

Herr Lahnstein, who was the German official chiefly involved in preparing the agreement, declined to comment on rumours that as a further step the U.S. might now be ready to sell gold.

But he did describe suggestions that the U.S. might sell foreign-denominated bonds as "not a practical issue for the time being." There was widespread speculation that such action was in the offing before the March accord was announced. The

absence there of any direct reference to was one factor contributing to the depressed market reaction.

Herr Lahnstein said the Germans had analysed the U.S. case on the bonds issue and "we think they had some very valid arguments against it. Even without such action, the breathing space created by the accord may be quite an extended one. I am relatively optimistic."

He stressed that the accord was both an economic and a monetary one—although the sections covering energy policy and trade had passed in large measure unnoticed. The object was to counter disorderly exchange market conditions while the underlying economic conditions worked through and planned policy measures (such as energy saving) could be implemented.

He believed that in the U.S. the urgency of an effective energy programme and an anti-inflationary policy was felt more generally even than six months ago.

In common with other German Government officials he was quick to contradict the thesis that an attack on inflation in the U.S. might itself involve lower economic growth and reduced export prospects for America's trading partners. "On the contrary, it is only a stability-orientated policy which is able to create growth if we talk in real, not nominal, terms."

Finally, Herr Lahnstein noted that earlier public manifestations of disagreement between West Germany and the U.S. on economic and monetary policy had largely vanished. This was due not just to political caution but to "objective factors. Everyone understands better than before that we face a complicated situation which cannot be solved just by pressing a button—on one side or the other."

Authenticity of Moro letter doubted

By Paul Betts

ROME, March 30.

WHILE POLICE handwriting experts were to-day checking the authenticity of a letter purportedly written by the kidnapped former Premier Sig. Aldo Moro, the authorities and his colleagues in the Christian Democrat Party were highly dubious that Sig. Moro wrote it voluntarily.

However, if the handwriting does turn out to be genuine, it is a reasonable indication that the party president, who was kidnapped two weeks ago by terrorists claiming to belong to the Red Brigades' urban guerrilla movement, is still alive.

There was considerable speculation to-day about the circumstances under which such a letter would be written, with the prevailing view suggesting that Sig. Moro was either heavily drugged or under the threat of immediate execution.

Photocopies of the five-page letter were found late last night in various major Italian cities, including Rome, Milan, Turin and Genoa, together with a so-called "third communiqué" from the Red Brigades.

In the letter, addressed to Sig. Francesco Cossiga, the Interior Minister, Sig. Moro says he is under the "complete" control of the terrorists and risks being forced to talk in "a dangerous and unsavoury way." He also says that he is looked upon as a "political prisoner" and is undergoing trial to establish his political responsibilities as head of the Christian Democrat Party.

Although no direct requests are contained in the letter, there is a tentative appeal to the Vatican to intervene.

Four years ago, when the Genoa magistrate, Sig. Mario Sossi, was kidnapped and "tried" by the Red Brigades, a letter from the magistrate addressed during his captivity to the Italian head of state set out the terms imposed by the terrorist group for his release. They involved freeing Red Brigades members in jail. Sig. Sossi was subsequently released and has since said that he was forced to write the letter.

Meanwhile, no established political party support has emerged for a suggestion by the Turin daily newspaper, *La Stampa*, that Sig. Giovanni Leone, the Italian President, should resign and be replaced automatically by Sig. Moro.

However, the veteran Republican Party leader, Sig. Ugo La Malfa, called to-day for the immediate resignation of Sig. Leone, whom he claimed was inadequate for his task.

Barre expected to remain Premier

BY ROBERT MAUTHNER

PARIS, March 30.

THE NEW French Government is expected to be formed early next week, following the extensive consultations which President Giscard d'Estaing has had over the past few days with political, trade union and employers' leaders.

Though there has been no official announcement on the subject, political commentators are confidently predicting that M. Raymond Barre, the Prime Minister, will be asked to lead the new administration. The Premier is expected to present the formal resignation of his outgoing government at an extraordinary Cabinet meeting tomorrow and his own reappointment may be announced immediately afterwards, or on Monday.

In line with his policy of establishing more normal relations between the Government and the opposition, President Giscard to-day had talks lasting an hour with M. Georges Marchais, the Communist leader, and also received the leader of the Communist-led CGT union, M. Georges Seguy.

M. Marchais, who was smiling broadly as he emerged from the Elysee Palace, did not, however, give the impression that there had been a great meeting of minds with the President. Reading from a text which had been prepared before his discussions

cent. to Frs.2,400 (£277) per month, while—the Communist leader also demanded a return to proportional representation in parliamentary and other elections.

M. Marchais took advantage of the occasion to stress the Communist Party's continued support of the union of the Left, the battered alliance with the Socialists which, now the election is over, stands little chance of being resuscitated in anything like its old form.

M. Seguy, whose union, with 2.4m. members is the largest in the country, called for the immediate opening of negotiations on wages, social security benefits and working conditions, between

the Government, trade unions and employers' organisations. Though he did not openly threaten strike action if the CGT's demands were not satisfied, M. Seguy warned that his union would not accept any delays over the new government was formed.

Meanwhile, the Gaullist Party, which prides itself on its internal unity, has been shaken by a dispute over the presidency of the National Assembly, for which there are now three Gaullist candidates: M. Jacques Chaban-Delmas, a former Prime Minister, who is running for the Speaker's job against the present incumbent, M. Edgar Faure, has accused the Gaullist leader, Jacques Chirac, of double dealing.

In a letter to Gaullist Members of Parliament, M. Chaban-Delmas claimed that M. Chirac had first of all supported his candidature but had subsequently changed his position and had invited the party's central committee to back M. Faure at a meeting which M. Chaban-Delmas had been unable to attend.

Hope in IG-Metal dispute

BY ADRIAN DICKS

BONN, March 30.

A GLIMMER of light in the southwest German engineering industry dispute appeared this afternoon, after both union and employers' leaders admitted that their continuing negotiations had produced "somehow more movement."

Details of what development had caused this distinct—if still cautious—change of tune were not known. Observers following the Stuttgart negotiations between the two sides were reluctant to assume that the end of the dispute was yet in sight.

However, there was reported to have been some progress in the most difficult area of discussion in this year's wage negotiations in the North Württemberg—North Baden region. This is the demand of the engineering industry union, IG-Metal, for guarantees of job security and of

job classification that would prevent men in skilled occupations from being put back into lower wage categories as a result of technological change.

To-day, IG-Metal called several more engineering works in North Württemberg—North Baden out on strike, bringing the total of its members now directly involved to about 90,000. Some 146,000 workers, including many non-union members, are locked out by the employers.

There was further criticism of the lock-out tactic to-day when the Deutsche Gewerkschaftsbund (DGB), the equivalent of the TUC, organised protest rallies in Stuttgart and other towns, while thousands of lawsuits against the employer's use of the lockout have now been brought by individual workers in the labour courts.

job classification that would prevent men in skilled occupations from being put back into lower wage categories as a result of technological change.

To-day, IG-Metal called several more engineering works in North Württemberg—North Baden out on strike, bringing the total of its members now directly involved to about 90,000. Some 146,000 workers, including many non-union members, are locked out by the employers.

There was further criticism of the lock-out tactic to-day when the Deutsche Gewerkschaftsbund (DGB), the equivalent of the TUC, organised protest rallies in Stuttgart and other towns, while thousands of lawsuits against the employer's use of the lockout have now been brought by individual workers in the labour courts.

Brezhnev urges boost in energy output

BY DAVID SATTER

MOSCOW, March 30.

MR. LEONID BREZHNEV, the Soviet President, to-day visited the Tyumen, centre of the rich West Siberian oil and gas region, and stressed to party leaders the necessity of increasing energy production from the region and using effectively existing reserves.

The Soviet news agency Tass reported that Mr. Brezhnev, who was accompanied by the Defence Minister, Mr. Dmitri Ustinov, issued a number of specific directions to executives pointing out

that West Siberian development was an important part of the 1976-80 five-year plan.

Tass gave no indication what those instructions were but Mr. Brezhnev's trip to Tyumen, which immediately followed a visit by Mr. Aleksei Kosygin, the Premier, may reflect Soviet concern about energy production in West Siberia—the anticipated source of half the country's oil by 1980.

oil fields in the Tyumen region have now reached peak production of 150m. tonnes. This was sooner than expected. Soviet oil production as a whole in 1977 failed to meet its target.

The Russians have stressed repeatedly that they are confident that the country has vast oil reserves and new wells will be put into operation as old ones expire, but the operational problems involved in exploiting these resources have lent a note of uncertainty to these assurances.

Meanwhile, no established political party support has emerged for a suggestion by the Turin daily newspaper, *La Stampa*, that Sig. Giovanni Leone, the Italian President, should resign and be replaced automatically by Sig. Moro.

However, the veteran Republican Party leader, Sig. Ugo La Malfa, called to-day for the immediate resignation of Sig. Leone, whom he claimed was inadequate for his task.

However, the veteran Republican Party leader, Sig. Ugo La Malfa, called to-day for the immediate resignation of Sig. Leone, whom he claimed was inadequate for his task.

Citibank opens office in Lisbon

BY JIMMY BURNS

LISBON, March 30.

CITIBANK, the second largest U.S. bank, has opened a representative office in Lisbon, the first foreign bank to do so since the revolution on April 25, 1974.

Negotiations between Citibank and the Portuguese Government on setting up the office began last year following the promulgation in October 1976 of a decree law regulating the activities of foreign financial institutions in Portugal.

By the terms of the present constitution, Citibank will not be allowed banking operations of

any kind, or to render any service considered as a banking activity. However, because of the decree law it will have greater freedom to promote the financing of industrial projects, and imports and exports, and also collaborate more closely with Portuguese banks. These were all nationalised after the revolution.

The establishment of Citibank's representative office here is seen as reflecting the growing confidence among international financial circles over

Portugal's capacity for economic recovery. Citibank officials have confirmed that they are prepared to provide long-term loans to stimulate certain industrial projects yet to be decided. Other foreign banks have also applied to the Bank of Portugal to set up representative offices in Lisbon. These include three more U.S. banks, among whom is believed to be the Chase Manhattan Bank. Their applications are still awaiting formal authorisation from the Ministry of Finance.

Portugal's capacity for economic recovery. Citibank officials have confirmed that they are prepared to provide long-term loans to stimulate certain industrial projects yet to be decided. Other foreign banks have also applied to the Bank of Portugal to set up representative offices in Lisbon. These include three more U.S. banks, among whom is believed to be the Chase Manhattan Bank. Their applications are still awaiting formal authorisation from the Ministry of Finance.

Norwegians again reduce oil estimates

BY FAY GJESTER

OSLO, March 30.

THE NORWEGIAN Government has again substantially reduced its estimates of oil production and revenue over the next few years, partly because of increasing official scepticism about operating companies' forecasts.

The revised economic programme for 1979-81, due to be published shortly, will put the total growth value of petroleum production on Norway's continental shelf, during the four years, at only Nkr.119.5bn. (£12bn.). This compares with a forecast of Nkr.142bn. made in only a year ago, when the four-year programme was first published.

State revenues from oil activities this year are now foreseen at only Nkr.6bn., compared with the original estimates of Nkr.10.5bn.

Mr. Bjartmar Gjarde, the Oil and Energy Minister, says that the new figures take account of two factors: the hold-ups and problems that have plagued the development of Norwegian fields so far, and the fact that the Government is relying on the forecasts of its own experts.

In addition to this revision of forecasting methods, he said, last year saw several serious delays to production and development.

based its projections exclusively on oil-company forecasts. Mr. Gjarde told the Oslo newspaper *Aftenposten*. From that year, it began making use of the theoretical figure half-way between the commercial forecasts and those of the state oil directorate. The former proved consistently over-optimistic, however, and since July 1977 official calculations have been based exclusively on the directorate's figures.

In addition to this revision of forecasting methods, he said, last year saw several serious delays to production and development.

In addition to this revision of forecasting methods, he said, last year saw several serious delays to production and development.

Dutch poll win for Christian Democrats

By Charles Batchelor

AMSTERDAM, March 30.

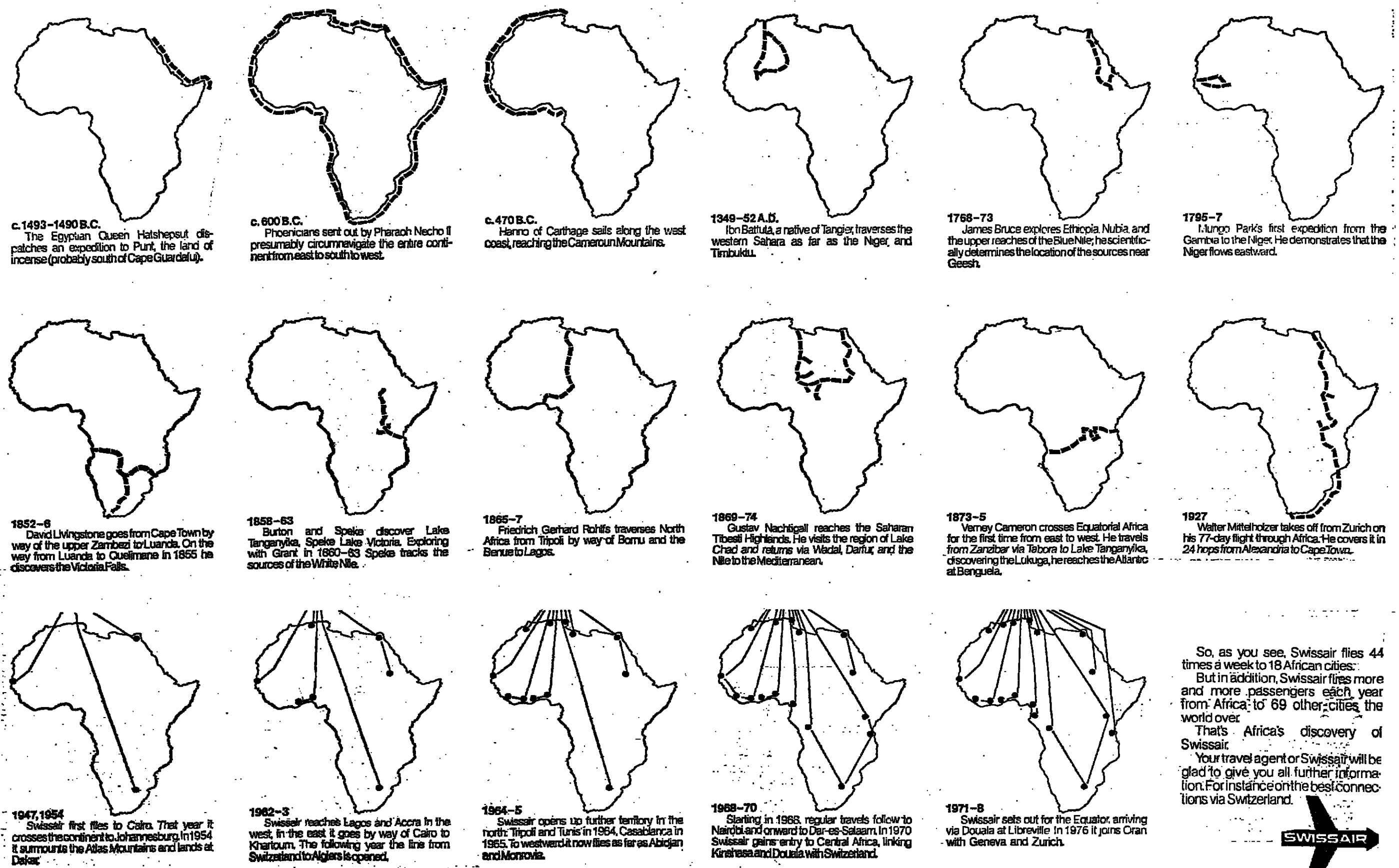
THE CHRISTIAN Democrats, the senior partner in Holland's two-party ruling coalition, emerged as the clear winner in yesterday's provincial elections. If the result were to be translated into parliamentary seats, the Christian Democrats would outstrip Labour as the largest single party.

In fact, the provincial elections will strengthen the centrist Christian Democrats' position in the administrations of the country's 11 provinces. The impact of today's vote will also show through in the Upper House of Parliament in 1980.

Members of the Upper House are nominated not by the electorate directly but by the provincial councils. About half of the 75 Upper House seats are open for re-election in 1980.

The Christian Democrats took 35 per cent. of the votes, compared with 32 per cent. in last year's general election and 31 per cent. in the provincial elections of 1974. The Liberals saw their vote fall to 17 per cent. from 18 and 19 per cent. in the two previous polls. Labour increased its share of the vote to 33.9 per cent. from 33.8 per cent. last year and from 29 per cent. in 1974.

The discoveries of Africa.



So, as you see, Swissair flies 44 times a week to 18 African cities. But in addition, Swissair flies more and more passengers each year from Africa to 69 other cities the world over.

That's Africa's discovery of Swissair.

Your travel agent or Swissair will be glad to give you all further information. For instance on the best connections via Switzerland.

SWISSAIR

BOND DRAWING

GRANGES AB 9% U.S. Dollar Bonds 1985

S. G. WARBURG & CO. LTD., announce that the redemption instalment of U.S.\$1,250,000 due 1st May, 1978 has been met by purchases in the market to the nominal value of U.S.\$370,000 and by a drawing of bonds to the nominal value of U.S.\$880,000.

The distinctive numbers of the bonds, drawn in the presence of a Notary Public, are as follows:

6	27	48	59	90	112	132	155	175	195
217	239	269	281	301	323	344	365	387	407
429	449	472	482	513	535	556	578	598	619
640	661	681	694	725	747	768	789	809	832
852	874	895	916	937	958	979	1000	1022	1042
1064	1084	1105	1126	1147	1168	1189	1210	1231	1252
1273	1294	1315	1336	1357	1378	1399	1420	1441	1462
1483	1504	1525	1546	1567	1588	1609	1630	1651	1672
1693	1714	1735	1756	1777	1798	1819	1840	1861	1882
1903	1924	1945	1966	1987	2008	2029	2050	2071	2092
2113	2134	2155	2176	2197	2218	2239	2260	2281	2302
2323	2344	2365	2386	2407	2428	2449	2470	2491	2512
2533	2554	2575	2596	2617	2638	2659	2680	2701	2722
2743	2764	2785	2806	2827	2848	2869	2890	2911	2932
2953	2974	2995	3016	3037	3058	3079	3100	3121	3142
3163	3184	3205	3226	3247	3268	3289	3310	3331	3352
3373	3394	3415	3436	3457	3478	3499	3520	3541	3562
3583	3604	3625	3646	3667	3688	3709	3730	3751	3772
3793	3814	3835	3856	3877	3898	3919	3940	3961	3982
4003	4024	4045	4066	4087	4108	4129	4150	4171	4192
4213	4234	4255	4276	4297	4318	4339	4360	4381	4402
4423	4444	4465	4486	4507	4528	4549	4570	4591	4612
4633	4654	4675	4696	4717	4738	4759	4780	4801	4822
4843	4864	4885	4906	4927	4948	4969	4990	5011	5032
5053	5074	5095	5116	5137	5158	5179	5200	5221	5242
5263	5284	5305	5326	5347	5368	5389	5410	5431	5452
5473	5494	5515	5536	5557	5578	5599	5620	5641	5662
5683	5704	5725	5746	5767	5788	5809	5830	5851	5872
5893	5914	5935	5956	5977	5998	6019	6040	6061	6082
6103	6124	6145	6166	6187	6208	6229	6250	6271	6292
6313	6334	6355	6376	6397	6418	6439	6460	6481	6502
6523	6544	6565	6586	6607	6628	6649	6670	6691	6712
6733	6754	6775	6796	6817	6838	6859	6880	6901	6922
6943	6964	6985	7006	7027	7048	7069	7090	7111	7132
7153	7174	7195	7216	7237	7258	7279	7300	7321	7342
7363	7384	7405	7426	7447	7468	7489	7510	7531	7552
7573	7594	7615	7636	7657	7678	7699	7720	7741	7762
7783	7804	7825	7846	7867	7888	7909	7930	7951	7972
7993	8014	8035	8056	8077	8098	8119	8140	8161	8182
8203	8224	8245	8266	8287	8308	8329	8350	8371	8392
8413	8434	8455	8476	8497	8518	8539	8560	8581	8602
8623	8644	8665	8686	8707	8728	8749	8770	8791	8812
8833	8854	8875	8896	8917	8938	8959	8980	9001	9022
9043	9064	9085	9106	9127	9148	9169	9190	9211	9232
9253	9274	9295	9316	9337	9358	9379	9400	9421	9442
9463	9484	9505	9526	9547	9568	9589	9610	9631	9652
9673	9694	9715	9736	9757	9778	9799	9820	9841	9862
9883	9904	9925	9946	9967	9988	10009	10030	10051	10072
10093	10114	10135	10156	10177	10198	10219	10240	10261	10282
10303	10324	10345	10366	10387	10408	10429	10450	10471	10492
10513	10534	10555	10576	10597	10618	10639	10660	10681	10702
10723	10744	10765	10786	10807	10828	10849	10870	10891	10912
10933	10954	10975	10996	11017	11038	11059	11080	11101	11122
11143	11164	11185	11206	11227	11248	11269	11290	11311	11332
11353	11374	11395	11416	11437	11458	11479	11500	11521	11542
11563	11584	11605	11626	11647	11668	11689	11710	11731	11752
11773	11794	11815	11836	11857	11878	11899	11920	11941	11962
11983	11999	12015	12031	12047	12063	12079	12095	12111	12127
12143	12159	12175	12191	12207	12223	12239	12255	12271	12287
12303	12319	12335	12351	12367	12383	12399	12415	12431	12447
12463	12479	12495	12511	12527	12543	12559	12575	12591	12607
12623	12639	12655	12671	12687	12703	12719	12735	12751	12767
12783	12799	12815	12831	12847	12863	12879	12895	12911	12927
12943	12959	12975	12991	13007	13023	13039	13055	13071	13087
13103	13119	13135	13151	13167	13183	13199	13215	13231	13247
13263	13279	13295	13311	13327	13343	13359	13375	13391	13407
13423	13439	13455	13471	13487	13503	13519	13535	13551	13567
13583	13599	13615	13631	13647	13663	13679	13695	13711	13727
13743	13759	13775	13791	13807	13823	13839	13855	13871	13887
13903	13919	13935	13951	13967	13983	14000	14016	14032	14048
14064	14080	14096	14112	14128	14144	14160	14176	14192	14208
14224	14240	14256	14272	14288	14304	14320	14336	14352	14368
14384	14400	14416	14432	14448	14464	14480	14496	14512	14528
14544	14560	14576	14592	14608	14624	14640	14656	14672	14688
14704	14720	14736	14752	14768	14784	14800	14816	14832	14848
14864	14880	14896	14912	14928	14944	14960	14976	14992	15008
15024	15040	15056	15072	15088	15104	15120	15136	15152	15168
15184	15200	15216	15232	15248	15264	15280	15296	15312	15328
15344	15360	15376	15392	15408	15424	15440	15456	15472	15488
15504	15520	15536	15552	15568	15584	15600	15616	15632	15648
15664	15680	15696	15712	15728	15744	15760	15776	15792	15808
15824	15840	15856	15872	15888	15904	15920	15936	15952	15968
15984	16000	16016	16032	16048	16064	16080	16096	16112	16128
16144	16160	16176	16192	16208	16224	16240	16256	16272	16288
16304	16320	16336	16352	16368	16384	16400	16416	16432	16448
16464	16480	16496	16512	16528	16544	16560	16576	16592	16608
16624	16640	16656	16672	16688	16704	16720	16736	16752	16768
16784	16800	16816	16832	16848	16864	16880	16896	16912	16928
16944	16960	16976	16992	17008	17024	17040	17056	17072	17088
17104	17120	17136	17152	17168	17184	17200	17216	17232	17248
17264	17280	17296	17312	17328	17344	17360	17376	17392	17408
17424	17440	17456	17472	17488	17504	17520	17536	17552	17568
17584	17600	17616	17632	17648	17664	17680	17696	17712	17728
17744	17760	17776	17792	17808	17824	17840	17856	17872	17888
17904	17920	17936	17952	17968	17984	18000	18016	18032	18048
18064	18080	18096	18112	18128	18144	18160	18176	18192	18208
18224	18240	18256	18272	18288	18304	18320	18336	18352	18368
18384	18400	18416	18432	18448	18464	18480	18496	18512	18528
18544	18560	18576	18592	18608	18624	18640	18656	18672	18688
18704	18720	18736	18752	18768	18784	18800	18816	18832	18848
18864	18880	18896	18912	18928	18944	18960	18976	18992	19008
19024	19040	19056	19072	19088	19104	19120	19136	19152	19168
19184	19200	19216	19232	19248	19264	19280	19296	19312	19328
19344	19360	19376	19392	19408	19424	19440	19456	19472	19488
19504	19520	19536	19552	19568	19584	19600	19616	19632	19648
19664	19680	19696	19712	19728	19744	19760	19776	19792	19808
19824	19840	19856	19872	19888	19904	19920	19936	19952	19968

On 1st May, 1978 there will become due and payable upon each bond, drawn for redemption, the principal amount thereof, together with accrued interest to said date at the office of:-

S. G. WARBURG & CO. LTD.,
30 Gresham Street, London EC2P 2EB

or one of the other paying agents named on the bonds.

Interest will cease to accrue on the bonds called for redemption on and after 1st May, 1978 and bonds so presented for payment must have attached all coupons maturing after that date.

U.S.\$16,250,000 nominal amount of bonds will remain outstanding after 1st May, 1978. The following bonds drawn for redemption on dates stated below have not as yet been presented for payment.

1st May, 1976

No's: 4258 : 5170 : 5246 : 6810

1st May, 1977

No's: 2827 : 3009 : 3024 : 3055 : 4240 : 4255 : 4271 : 4286 : 4301
4316 : 4772 : 5061 : 5076 : 6716 : 6762 : 6807 : 6823 : 6889
7571 : 16427

30 Gresham Street, London EC2P 2EB.

31st March, 1978

FINANCIAL TIMES

BRACKEN HOUSE, 11 CANON STREET, LONDON EC2A 4BY.....
Telex: Editorial 88641/2, 88397 Advertisements: 88503/3 Telegrams: Financial, London FS4
Telephone: 01-424 8000

For Share Index and Business News Summary in London, Birmingham, Liverpool and Manchester, Tel: 246 8026.

INTERNATIONAL AND BRITISH OFFICES

EDITORIAL OFFICES
Amsterdam: P.O. Box 1296, Amsterdam-C. Tel: 12171 Tel: 240 553
Birmingham: George House, George Road. Tel: 233850 Tel: 021-454 0922
Bonn: Presshaus 11/104 Heussallee 2-10. Tel: 8858512 Tel: 210039
Brussels: 30 Rue Darcle. Tel: 22223 Tel: 512-5057
Cairo: P.O. Box 2040. Tel: 845310
Dublin: 5 Fitzwilliam Square. Tel

AMERICAN NEWS

Carter to outline inflation policy after his return

BY JUREK MARTIN, U.S. EDITOR

WASHINGTON, March 30.

ACTIONS BY the Carter Administration over the last 24 hours on farm price supports, the latest round of steel price increases and the planned pay rise for federal employees illustrate the general direction the Government's anti-inflation policies are likely to take.

President Carter said at his news conference in Brasília this morning that new announcements on inflation would be made after his return from his foreign travels next week. Speaking in Chicago this morning, Vice-President Walter Mondale confirmed the general assumption that wage and price controls are not a live option at this stage. The Administration will probably engage in a series of small actions, combined with some tougher talking to the

private sector. This is essentially the approach recommended by Mr. Barry Bosworth, head of the Council on Wage and Price Stability, whose emergence as the most vocal advocate of anti-inflationary policies masks the fact that his actual policy-making role is less great than several of his Administration colleagues. Nevertheless, Mr. Bosworth's advice, at least in principle, appears to have been taken over the following items.

● The Administration's farm income plan was unveiled late yesterday. This is designed to head off what are considered to be highly inflationary proposals already passed by the Senate along much more expanded lines and was accompanied by the

explicit warning that the President would veto any Bill that incorporated any of the Senate's more contentious provisions. The Administration's plan would boost farm incomes by \$3.4bn. a year by making additional payments to corn and cotton growers who let extra land lie fallow this year and by boosting support payments for wheat and soybeans.

But both Mr. Bob Bergland, the Agriculture Secretary, and Vice-President Walter Mondale, argued that this amounted to no more than fine tuning of existing practice and would not add to consumer food costs.

Mr. Bosworth's leaked memorandum to the President on inflation had recommended opposition to excessive farm aid bills. But the Administration, bargaining for critical support for the Panama Canal treaties, had adopted an ambivalent attitude towards a key amendment to the Farm Bill offered by Senator Talmadge of Georgia.

It is now hoped that the House of Representatives, strengthened by the threat of a Presidential veto, will undo much of the Senate legislation.

● In addition, Administration officials have formally notified union leaders that the pay increase for federal employees scheduled to take effect in October will be held to no more than 5.5 per cent.

● Mr. Carter himself criticised yesterday's 2.2 per cent. steel price increase announced by U.S. Steel to cover the costs of the latest miners' pay settlement.

All signs point to June elections in Canada

BY VICTOR MACKIE IN OTTAWA

ALL the signs in Canada now point to a June general election with the dissolution of parliament expected in mid-April. Many members of parliament, including some Cabinet ministers, have left the country for an Easter break in to build up their strength in anticipation of a rigorous campaign this spring.

Parliament is in recess and is due to resume sitting on April 3. Two weeks later the MPs expect to be plunged into a campaign with Mr. Pierre Trudeau, the Prime Minister, seeking re-election of his Liberal government.

A factor that may change the Prime Minister's mind and make him delay calling a Spring election is the decline of the Canadian dollar. It tumbled to a new low on New York money markets this week as commercial demands for U.S. dollars put the currency under heavy pressure.

At the close of trading in the inter-bank wholesale market on Monday the dollar was changing hands at 88.38 U.S. cents, down nearly a third of a cent from last week's close of 88.68. It saw the Canadian dollar's lowest level since May 1933.

With the House in recess, final approval of legislation to permit construction of the \$100m Alaska highway natural gas pipeline in northern Canada has been delayed. The Government had

hoped to have it passed before the Easter recess. The legislation will also establish a single federal monitoring agency to oversee construction of the huge gas pipeline.

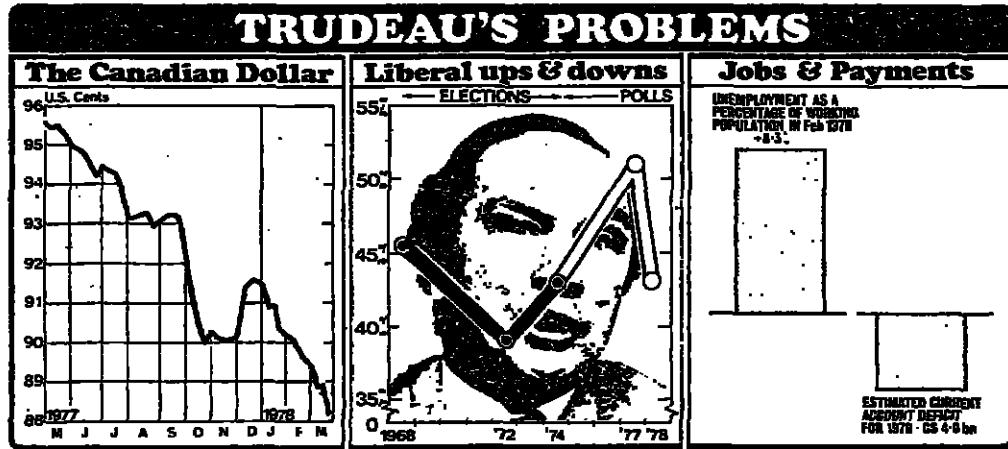
solved, the bill would have to be reintroduced into the Commons sometimes next autumn. This would create problems for the pipeline consortium. It might be reluctant to make further

the senate just before the recess. The government proposals would tighten the rules for directors of bankrupt corporations. The bill will make directors of

conference Board in Canada said this week that considerable improvement in Canada's trade balance is expected this year and should provide the basic stimulus for the economy in 1978.

Despite the weakness of the 1977 fourth quarter performance the outlook for the overall economic activity on a quarterly basis in 1978 remains as it was in December, one of moderate growth, said the Conference Board. However, the recent performance of the economy does reveal a continued reluctance on the part of Canadian businessmen to spend. This is consistent both with the current stage of the business cycle and recent surveys of business intentions. Real GNP is currently forecast by the Board to increase by 4.5 per cent. in 1978 following growth at a seasonally adjusted annual rate of 3.2 per cent. in the fourth quarter of 1977.

Canada's trade balance improved significantly during the fourth quarter of last year and the Conference Board expects this sector to be an important source of strength throughout 1978. The continuing recovery in the U.S. economy this year, together with the improvement in Canada's competitive position in foreign markets after the earlier depreciation of the Canadian dollar, should result in rapid export growth again in 1978, said the Board.



The passage of the legislation was delayed in the Commons by prolonged debate. There is worry that a general election might be called before the bill is passed through the Senate, but Liberal MPs doubt that Mr. Trudeau would call the election if the bill had not been passed by mid-April. If parliament was dis-

financial commitments until the project had been approved by parliament. Other key legislation to be debated by parliament when it returns after Easter is a revision of federal bankruptcy laws. They would give additional rights to wage earners of companies which go bankrupt. Introduced into

a bankrupt corporation personally liable for unpaid wages and contributions owed to employees. Mr. Trudeau, if he follows what appears to be the Liberals' election plan and calls a spring vote, would be gambling that the Canadian economy would show an upturn this summer before the voters went to the polls. The

1978, said the Board.

Economic index unchanged

BY OUR OWN CORRESPONDENT WASHINGTON, March 30.

THE U.S. Index of leading economic indicators was unchanged in February from the previous month. However, revised figures issued by the Commerce Department today showed that the sharp decline in January, brought on by bad weather and the coal strike, was less precipitous than had been thought, with the index falling 1.3 per cent. as against the original estimate of 1.9 per cent.

Last year, a similar sharp decline, caused by climatic factors, in January had been reversed in February. Therefore, no change in the index, which points

to future economic activity, may be seen as further evidence of the more modest rate of growth.

This comes as no particular surprise: most private and public forecasts predict that in the first quarter of the year Gross National Product will only increase by 3.4 per cent. at an annual rate.

However, improvement thereafter is anticipated. In a speech given last week in Indianapolis, Mr. Charles Schultze, chairman of the President's Council of Economic Advisers, forecast a "snapback" of the economy in the second quarter.

Peru and banks discuss new loan

LIMA, March 30.

THE PERUVIAN Government has announced that representatives of six foreign banks held a meeting on Monday with President Francisco Morales Bermudez to discuss the national balance of payments problems.

Reliable sources said that the bankers representing U.S., West German, British and Japanese banks offered Peru a loan of \$200m. But the sources said that the banks made such a loan conditional to an authorisation by the International Monetary Fund (IMF) of a standby loan to Peru. The IMF is demanding from Peru, according to the sources, drastic austerity measures, including a reduction of Government expenditures, in order to grant the stand-by loan. The banks which participated

in the meeting were Manufacturers Hanover, Citibank, Wells Fargo, Dresdner Bank, Bank of Nova Scotia and Bank of Tokyo. These belong to an international co-ordinating committee of the commercial creditors of Peru, chaired by Manufacturers Hanover.

The Government also said that a senior official delegation, headed by the chairman of the joint chiefs of staff, General Pedro Richter, flew to Moscow yesterday to negotiate with the Soviet Union for a restructuring of the Peruvian debt to the USSR. Gen. Richter said that Peru is facing a "very tight" schedule of repayments of foreign debt between now and 1980. He said that similar actions are being taken with

other creditor countries. Meanwhile, in New York Manufacturers Hanover confirmed that the meeting had taken place on Monday in Lima. Negotiations have been under way since mid-February, the bank said.

Manufacturers Hanover said that the Peruvian authorities had announced their intentions of introducing additional economic stabilisation measures which they expect to ensure Peruvian eligibility to draw under its stand-by agreement with the IMF which was signed in November. The banks consider that eligibility to be one pre-requisite for the granting of any new commercial loan to help the national balance of payments.

New York finances better than expected, says report

NEW YORK, March 30.

A NEW REPORT paints a somewhat brighter picture of New York City's financial condition in the coming year than had previously been predicted.

The report, by the New York State Special Deputy Comptroller, Mr. Sidney Schwartz, says that the city budget is in better shape than predicted by City Hall, and it suggests the city will need to do less short-term borrowing than expected. The report covers fiscal year 1978, starting on July 1.

Mr. Schwartz estimates that the city's fiscal year 1978 budget deficit at \$345m., rather than the \$457m. figure used by the city and in somewhat higher Treasury Department estimates. Mr. Schwartz's prediction of a \$345m. deficit, like the city's higher figure, provides no money for a wage increase for the 225,000 city workers who are holding contract talks with the city.

Turning to the city's short-term cash needs, Mr. Schwartz predicts New York will need to borrow just \$700m., compared with city estimates of \$1bn. to \$1.2bn.

Meanwhile in Washington, Senator William Proxmire released figures which, he said, show that New York City banks can do much more to help solve the city's financial problems. Senator Proxmire, chairman of the Senate Banking Committee and a critic of further federal aid to New York, says that, while the city was receiving U.S. help, the six largest New York banks were reducing their holdings of city-related securities.

According to Sen. Proxmire, the holdings by the six banks of these securities equalled 0.72 per cent. of their assets on September 30, 1977, down from 0.82 per cent. in September 1975, before the current seasonal loan programme began.

President goes gently on human rights in Brazil

By Diana Smith

RIO DE JANEIRO, March 30. PRESIDENT CARTER, on his official visit to Brazil, which ended at noon today, has treated the question of human rights delicately. He has gone on a private visit to Rio de Janeiro — to hear what he called "the other voice of Brazil" — before flying to Nigeria to-morrow morning.

Compared with the blunt stand he took in the early days of his Administration, inspiring Brazil to break off its military cooperation agreement with the U.S., Mr. Carter's words have fallen as balm on official Brazilian ears.

To-morrow morning, Mr. Carter will cram private talks with six church and civil leaders into less than an hour in Rio de Janeiro. There is dismay here at the brevity of the meetings which, to some observers, appear more symbolic than effective.

Quebec-Labrador iron ore strike spreads further

BY ROBERT GIBBENS

MORE THAN 10,000 members of the United Steelworkers are now idle in the main Canadian iron-ore producing centre, the Quebec-Labrador trough, 800 miles north-east of Montreal, and at the two shipping ports at Sept-les and Port Cartier on the St. Lawrence.

Strikes by the USW and Iron Ore Company of Canada, the largest producer, have shut mines, concentrators, pelletising plants and shipping facilities for a week, and go-slows by union members have brought a suspension of operations at mines, concentrators and shipping facilities of Quebec Cartier Mining Company.

Both iron ore railways from northern mines to shipping ports have been halted and only Wabush Mines continues shipping pellets from its stock-pile. The pelletising plant of Sidbec Normines, jointly owned by Sidbec and the Government-controlled Quebec steel producer,

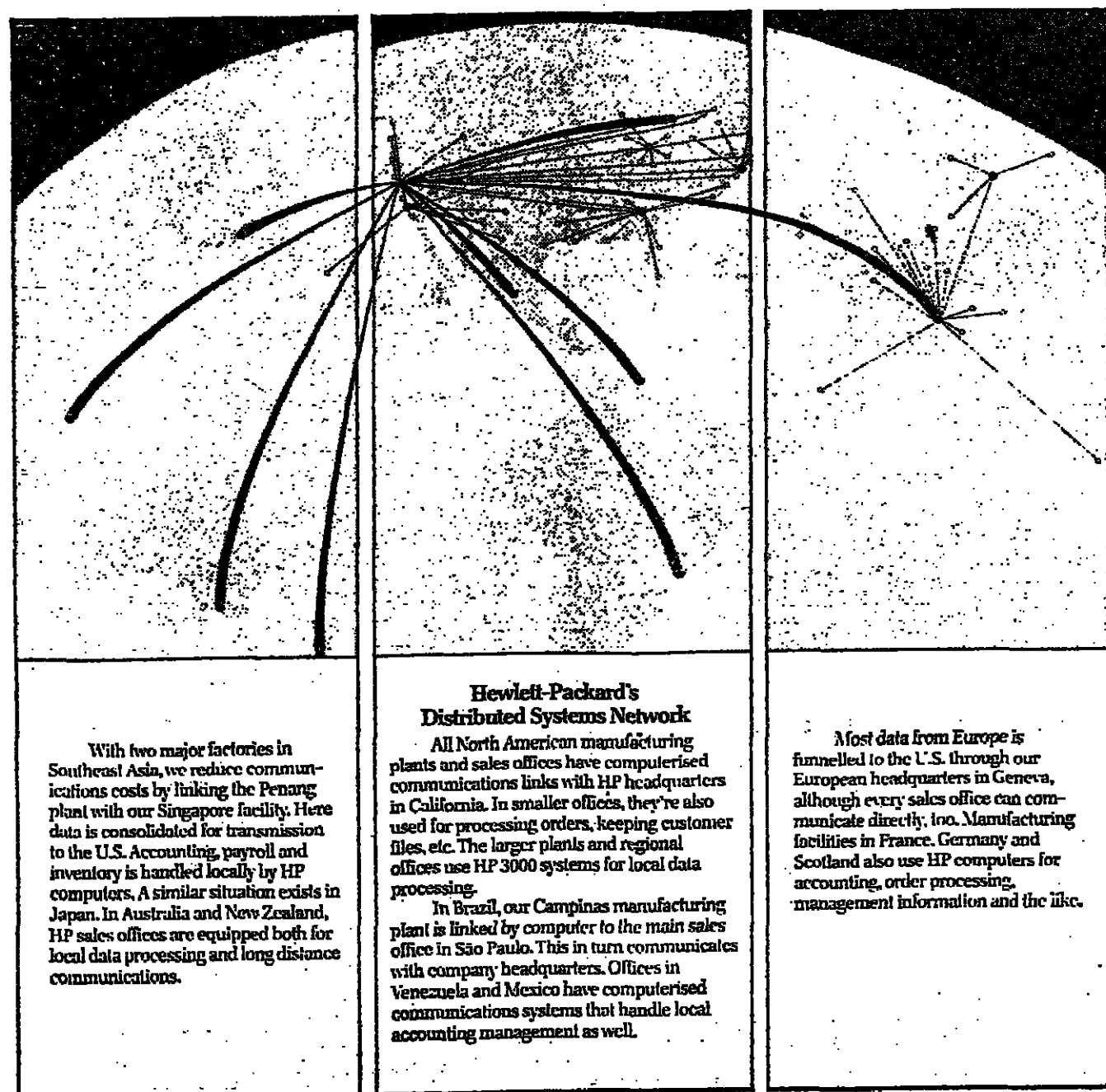
MONTREAL, March 29. the British Steel Corporation and U.S. Steel — was halted last night by the USW.

This means that the estimated annual iron production capacity in the region of nearly 60m. tons in the form of concentrates has been put out of action. The issues are health and safety and, in the case of Iron Ore of Canada, contracting out of maintenance tasks. Wages have not yet been brought up as an issue. Contracts expiring before April 30 are subject to an official limit of a 6 per cent. increase this year. The control is to expire at the end of the year. Talks between the union, IOC and a Government mediator were due to start to-day.

U.S. COMPANY NEWS
Ford underpins industry confidence, NBC outlook, Canadian du Pont warning—Page 32

How can you tell if distributed processing will work for you?

Look at the job it's done for Hewlett-Packard.



Hewlett-Packard's Distributed Systems Network

All North American manufacturing plants and sales offices have computerised communications links with HP headquarters in California. In smaller offices, they're also used for processing orders, keeping customer files, etc. The larger plants and regional offices use HP 3000 systems for local data processing.

In Brazil, our Campinas manufacturing plant is linked by computer to the main sales office in São Paulo. This in turn communicates with company headquarters. Offices in Venezuela and Mexico have computerised communications systems that handle local accounting management as well.

Most data from Europe is funnelled to the U.S. through our European headquarters in Geneva, although every sales office can communicate directly, too. Manufacturing facilities in France, Germany and Scotland also use HP computers for accounting, order processing, management information and the like.

At Hewlett-Packard, we began distributing the computer workload around our factories in 1967. Then, in 1971, we instituted a worldwide systems network that has helped us grow to more than £750 million in shipments, with 43 per cent of our business in computational products.

Today we make 4000 different products at 40 divisions around the world and have offices in 65 countries. This rapid financial and geographical expansion in a highly technical field made the distribution of our data processing an absolute necessity.

We began with the basics.

Small systems went to work in our factories, automating various tests. The next step was linking these minicomputers with other factory systems so they could relay data and programs. Then we tied these computers together so that local management could make decisions based on accurate, up-to-the-minute data.

As we continued to grow, we connected our widespread sales offices with the factories. Today we have 130 high-speed communications systems in 94 locations, sending compressed data via satellite and phone lines. About 12 million words a day come into our company headquarters. Yet the cost is phenomenally low. For example,

we can send a ten thousand word message internationally, in one minute for 45p. On a teleprinter, it would take 16 hours and cost about £400.

We need a system that can change. So do you.

You don't have to choose between a star network, or a circle, or a string. Our way, you can have any or all of them, linked together either as a small, local system or as a worldwide network. And you can hook up an HP system for as little as £3,250. So companies of all sizes can take advantage of our flexible approach to distributed processing. You won't have to throw out your old equipment, either. We're still getting good service from some non-HP computers and peripherals. There's no reason why you shouldn't.

The keystone of our system is the HP 3000, a powerful general business system. An inexpensive software package lets it communicate with the HP 1000, a computer generally dedicated to design, test and control applications in the factory. (Both can also link directly with an IBM mainframe.)

Most long-distance communications are handled by the HP 2026, which also has plenty of power for local data processing. New HP 3000 software makes it an even more powerful management information tool. You can, for instance, sit down at your computer in Paris and use all the processing power and data base of your Milan computer — or any other HP 3000 in your network.

Protecting the biggest investment of all.

We spent hundreds of man years developing the operating software for the HP 3000. So we know all about programming costs, and want to keep them down as much as you do. We do it by designing our new systems to use existing software. They'll run your programs faster and more efficiently. Otherwise, you'll hardly notice the difference.

We also save you a lot of headaches by making our own printers, video terminals, discs and tape drives and other add-on memories, data entry devices and the like. If any part of the system does need servicing we can fix it. With so many HP offices around we can usually be at your door within hours of your call.

The moral of our story.

It's simply this. If you need to distribute your computer workload across oceans or in your plant, you don't have to gamble. The Hewlett-Packard system has a bright future as well as an impressive past. You can find out all about it by filling in the coupon or writing to the address below.

HP3000

To: Hewlett-Packard Ltd., Womersley, Wokingham, Berks RG41 5AR.
Please send me further information on the HP 3000 System.
I want a sales representative to contact me.

Name _____
Position _____
Company _____
Address _____
Postcode _____ Tel: _____

HEWLETT  PACKARD

Womersley, Wokingham, Berks RG41 5AR. Tel: Wokingham 784774.

WORLD TRADE NEWS

U.S. business with Soviet Union shows 27% drop

BY DAVID SATTER

MOSCOW, March 30.

THE VALUE of U.S.-Soviet trade dropped significantly in 1977 compared with 1976, but increased Soviet demand for U.S. agricultural products is expected to push it back up in 1978.

Figures released by the U.S. Embassy show that U.S.-Soviet trade last year had a value of U.S.\$1,897m, 27 per cent less than the value of trade in 1976, which reached a record U.S.\$2,627m.

U.S. exports to the Soviet Union declined 30 per cent to U.S.\$1,623m, in 1977 from U.S.\$2,306m. In 1976 but U.S. imports from the Soviet Union increased six per cent to U.S.\$234m, in 1977 from U.S.\$221m, in 1976.

Most of the decline in U.S.

Soviet trade in 1977 was due to slackened Soviet demand for U.S. agricultural products in 1976 after a good Soviet harvest. The value of U.S. agricultural exports declined by approximately U.S.\$500m, in 1977 compared to 1976, accounting for almost three quarters of the overall decline in exports.

U.S. commercial sources, however, believe that 1978 will be a very good year for agricultural exports as the Soviets seek to make up for the 17m tonnes shortfall in the 1977 grain harvest by buying grain abroad.

The Soviets purchased approximately 12m tonnes of American grain in 1975-1976 and only 6m tonnes in 1976-77 but may purchase up to 15m tonnes in 1977-78, according to a U.S. Agriculture Department estimate. The Soviets have already ordered 12.5m tonnes, of which 6m tonnes have been shipped.

U.S. non-agricultural exports also declined in 1977 from the levels reached in 1976 but in that area, too, there is some optimism about 1978. The value of non-agricultural U.S. exports to the Soviet Union was approximately U.S.\$630m, in 1977 compared to U.S.\$819m, in 1976 but Soviet orders for oil and gas equipment have reached between \$US.60m and \$US.70m, in the past three months alone.

The Soviets are apparently committed to modernising their gas and oil extraction methods, which may predispose them towards the U.S. market.

Coca-Cola may build in Mid-East

COCA-COLA, as part of its effort to be removed from the Arab boycott list, is planning two construction projects in Egypt and Saudi Arabia, AP-DJ reports from Atlanta.

The soft-drink concern may undertake a joint venture with Saudi Arabia to build a canning plant costing \$10m, to \$15m, it will eventually supply the plant with soft-drink concentrate.

The company also plans to build a \$4m soft-drink concentrate plant in Alexandria, Egypt. Both projects are subject to the company's removal from the boycott list.

Sam Ayoub, President of Coca-Cola Middle East, a new group formed to develop the company's business in Arab countries, said he expects Arab countries to vote on Coke's bid to get off the list "by the end of April or the beginning of May." He said Saudi Arabia and Egypt had agreed to support the company.

Woodwork exports up

The British woodworking industry increased exports last year from £28,659,000 in 1976 to £35,990,000, figures from the British Woodworking Federation show. The increase, more than 50 per cent, has been achieved against a background of a declining home market, with fewer houses being built.

Engines for Uganda

The Uganda Government has signed an agreement with a French bank, the Société Générale, and a French engineering company to supply six locomotives to Uganda Railways, AP-DJ reports from Nairobi. The accord is valued at \$9m, and the locomotives, to be delivered by next year, will be for main-line use with cargo and passenger trains.

£1m. shipyard order

HUGH Smith, of Glasgow, has won a £1m. order for heavy shipyard machine tools from Herbert Morris, the Loughborough-based crane manufacturer, as part of a \$25m. package negotiated with Korea Shipbuilding and Engineering. The order includes a 1,500-tonne roll press; a 1,500-tonne flanging press; a 700-tonne frame bender and two 250-tonne pin-type horizontal presses.

Saudi hospital deal

Turner International Industries, a subsidiary of Turner Construction, has been awarded a construction management contract to expand the power plant for the King Faisal Medical City, a medical complex being built in Saudi Arabia, AP-DJ reports from New York.

AUSTRIA'S EXPORTS

Kreisky fights for eastern market

BY PAUL LENDVAI IN VIENNA

DR. BRUNO KREISKY, the Austrian Chancellor, arrived yesterday in East Germany, his second important mission within two months in an attempt to give a much-needed push to Austria's trade with East Europe.

Last month the Chancellor visited Moscow. Although he conducted political talks with President Leonid Brezhnev, the visit, like his East Berlin trip, was primarily motivated by economic considerations.

Meanwhile there was a flurry of high-level visits from Eastern Europe to Vienna. This month alone the Hungarian Minister of Trade, the Czechoslovak Finance Minister and, just before Easter, the Polish Foreign Minister visited the Austrian capital with economic cooperation dominating the talks.

Dr. Kreisky and his ministers are concerned about the stagnation in Austria's once flourishing trade with the East. Last year Austrian sales to the Comecon countries were up only by 1.7 per cent, well below the 8.4 per cent, recorded in aggregate exports.

More important, the surplus in Austria's favour has been shrinking rapidly, from Sch.5.7bn (about \$866m.) in 1975 to Sch.3.4bn. in 1976 and Sch.2.7bn. last year. A study compiled by trade experts of the Austrian Institute for Economic Research

estimates that if nothing happens, Austria's eastern trade by 1980 might be Sch.3bn. in the red.

The current rounds of talks with the East bloc Governments and State-run companies must be seen against that background. For Austria, a pacemaker in industrial-technical cooperation with the East while main Western powers were dragging their feet, eastern trade, relatively, is still more important than for any West European country except Finland.

Despite the contraction of proportional stakes since the second half of 1975, the Comecon countries were last year a market for 14.5 per cent of the exports total and provided 5.5 per cent of imports. In 1975 the proportional shares were 17.1 per cent, and 10.2 per cent, respectively. If one adds Yugoslavia, East Europe's share is just below 20 per cent of the aggregate exports.

Although the market situation varies from country to country, Austrian exporters are faced everywhere with import restrictions and intensified competition by Western exporters. It is also becoming more difficult to keep up with the credit terms offered by West German, U.S. and Japanese competitors. East European insistence on compensation deals is a further big obstacle.

Poland, Hungary, the Soviet Union and Czechoslovakia are the most important markets. The point is, however, that last year Austria had an excessively large deficit of Sch.3.8bn. in trade with the Soviet Union.

The study quoted earlier reckons that in two years the shortfall may rise to at least Sch.5.4bn. A large delegation of leading industrialists, headed by Mr. Rudolf Sallinger, President of the Federal Chamber of Economy, will visit Moscow next month to finalise the deals initiated or discussed during Dr. Kreisky's recent visit.

During his trip to East Berlin, Dr. Kreisky and his ministers will discuss joint projects in third markets.

Specifically, the two countries will be involved in joint ventures in Greece, Egypt, and Iran, primarily in power station construction. Although Austro-Polish co-operation involves the motor industry, the main emphasis has so far been on energy.

Poland is exporting 100-150 MW of electricity to Austria. From 1983 it will be increased to at least 400 MW.

Although the Austrian Minister of Trade, Dr. Josef Staribacher, publicly speculated that a second Austro-Polish power contract might postpone by another ten years the erection of a second

and third nuclear power plant, other observers are less elated about the prospect of growing dependence on fuel and power imports from the Communist bloc.

Meanwhile, Austrian exports to Poland last year dropped by 12 per cent, and their further expansion is clearly linked to further credits.

With serious strains on Austria's balance of payments, the scope for extending important new credits to the Comecon countries has become more limited. Yet earlier this month Austria opened a \$300m. credit line to finance building hotels and infrastructure for tourism in Hungary.

But then Poland is something of a special case, accounting so far for the bulk of the outstanding total of net indebtedness to Austrian banks which, according to latest figures, exceeded Sch.25bn.

Although economic experts estimate that Austria's share of the East European markets (excluding the Soviet Union) during the first three quarters of 1977 rose from 7.5 per cent, to 8.1 per cent, they take a pessimistic view of the short-term prospects because most Comecon countries will have to increase grain purchases in the West this year, to the detriment of their engineering imports.

Carter curbs CB radio imports

BY JOHN WYLES

NEW YORK, March 30.

PRESIDENT CARTER has decided to increase substantially tariff protection for U.S. manufacturers of citizens' band radios following Japanese sales penetration which has captured a little over 90 per cent of the American market.

A Presidential order will be issued in the next two weeks which will raise immediately the existing 6 per cent tariff on imported CB radios to 31 per cent. After one year the import duty will be reduced to 18 per cent, and will fall to 15 per cent, in the third year. After three years the tariff will revert to 6 per cent.

The new tariffs were given a mixed reception by U.S. producers many of whom had hoped

for more substantial protection over a longer period. However, the White House apparently took the view that the higher duties selected, coupled with the appreciation of the yen against the dollar, would improve the U.S. manufacturers' competitive position and enable them to reduce their inflated stocks.

According to trade negotiator Mr. Robert Strauss, the Japanese had seized about 91 per cent of the American market. Official figures indicate that imports of CB radios reached a peak of 15.3m. in 1976 which was substantially more than the total number of sets sold that year. A small proportion of the estimated 3.1m. sets sold in the U.S. last year were of American make.

Well over 28m. sets are

thought to be in use, many installed in cars and trucks. The CB craze has made it more difficult for police forces to operate their radar speed traps and in some parts of the country the radios have grossly interfered with television reception.

The International Trade Commission found earlier this year that imports were damaging domestic producers, but the six-man ITC panel was evenly split as to what remedy should be recommended.

One group urged import duties starting at 36 per cent, and then scaled down in subsequent years. The other three men rejected trade restrictions and proposed aid to domestic manufacturers under the Government's trade adjustment assistance programme.

Greek deficit of \$648m.

BY OUR OWN CORRESPONDENT

ATHENS, March 30.

GREECE HAD a trade deficit of \$648m. in the first two months of this year, according to figures from the Bank of Greece. That was a 23 per cent increase over January-February, 1977.

Imports increased by 11 per cent to \$1,072m., while exports were down 3.4 per cent at \$424m. The trade deficit was largely covered by a 15 per cent increase in invisible earnings which totalled \$473m., mainly from shipping, which rose 11 per cent at \$174m.; tourism, at \$30m. (up 27 per cent.); and Air Service.

HS 748 order

The Government of Trinidad and Tobago has exercised its option and placed an order with British Aerospace for a third HS 748 for Trinidad and Tobago Air Service.

World Bank aid increase

WASHINGTON, March 30.

THE WORLD BANK'S lending activities to support the creation of small-scale enterprises in developing nations will be increased to about \$300m. a year by mid-1981.

In a special study, the agency said this would be a six-fold increase over the amount currently available for that purpose.

The World Bank's objective is to help developing countries in Asia, Latin America and Africa create more jobs outside of agriculture for their growing labour forces.

In many countries, workers increasingly are moving from the farm to urban areas even though there are not enough jobs for the people who are already there.

The World Bank study said the "conventional pattern" of industrialisation requires heavy investment—\$15,000 or more for each new job in modern Western industrial nations. "This is far in excess of the capital resources available to poor countries."

Japan-E. Europe credit in doubt

TOKYO, March 30.

TEN LEADING Japanese trading companies will have to decide whether they can agree to a proposal from four East European countries for a simple extension of private Japanese credit lines due to expire tomorrow, the Ministry of International Trade and Industry said here.

Some trading houses are opposed to simple extension of the credit lines totalling \$1.26bn. supplied in recent years, of which more than half remains unused because of a delay in business talks for the projects for which they are intended. It said.

The credit lines are \$450m. for Poland, of which 48 per cent had been used as of early March, \$330m. for Romania, 44 per cent used, \$200m. for Yugoslavia, 37 per cent used, and \$280m. for

Bulgaria, 12.8 per cent used, it said.

Last-minute efforts to reduce the unused portions of the credit lines by stepping up business talks have not been very successful, the Ministry said.

In addition, Hungary has a credit line, expiring in March 1979 of which only 2.6 per cent had been used as of early March, it said.

Business negotiations for Japanese exports of machinery and equipment for some East European projects have met with difficulties because of East European demands for Japanese counterpurchases of their products and better payment terms specified for the credit lines.

If the credit lines are not extended, new credit lines may be negotiated, but that would involve further difficulties, the Ministry said.

Sheraton for Amman

By Rami G. Khouri

SHERATON CORPORATION, the American hotel company, has signed a 25-year agreement to manage a new 300-room, five-star hotel in Amman. The new Sheraton Palace Hotel is being built by the Sawalha Brothers tourist hotels company, owners of the Grand Palace Hotel, for \$20m.

At 22 stories, with an all-season rooftop swimming pool, the new hotel will be Amman's tallest building.

Sheraton will provide an all-international staff to start operations when the hotel is completed in June next year and will gradually train Jordanian staff to take over.

There is no management fee but Sheraton gets a straight percentage of net profits. More than half the financing is being raised by a loan in Jordanian dinars being syndicated among Jordanian, Arab and international banks operating in Amman. Citibank is putting the loan together.

We saw them all around the world and brought them safely home.

The Whitbread Trophy Round-the-World Yacht Race is a test of endurance. For the crews and their equipment alike. In some of the most hazardous conditions you can meet at sea, you need to know you can trust your equipment, and the service. Which is why 10 of the 15 entrants chose Lucas Marine equipment. And why they relied on Lucas Service for both their pre-pack check and their free service, electrical and fuel injection equipment checks at Cape Town, Auckland and Rio. So when we congratulate the winners, we're congratulating ourselves too. After all, we saw them all around the world. And brought them safely home.

"Lucas equipment on board includes alternators, starter motors, batteries, control boards, cable signalling lamps, meters and diesel fuel injection systems, all the equipment being fully protected for marine applications. Contact us at Frimley Road, Camberley, Surrey, Phone (0276) 63252.

LUCAS

HOME NEWS

BP Chemicals will spend £200m. despite profit fall

BY KEVIN DONE, CHEMICALS CORRESPONDENT

PROFITABILITY of British Petroleum's chemicals operations fell last year, but the group is pressing ahead with a rapidly growing capital expenditure programme this year. Pre-tax profits from its world-wide chemicals operations dropped from £48.5m. in 1976 to £18.9m. last year, but the fall in U.K. activities was even more pronounced.

Profits in the U.K. were down from £36m. in 1976 to £11.3m. last year, and the volume of home and export sales fell by 3 per cent.

Faced with strong competition and only slow growth in the U.K., the group put more emphasis on export sales and pushed up the volume by 4 per cent. over the year.

Sales value was up by 10 per cent. because of higher prices, but this failed to keep pace with the movement in costs, which rose by 16 per cent. The group's overall sales volume—taking in the activities of associated companies in six other countries—was slightly up by 2.1 per cent. to 2.5m. tonnes with a turnover of £861m.

Important markets for the company were hit last year by the serious depression in the European synthetic fibres industry, and aromatics production has suffered from the impact of U.S. exponents based on low cost energy.

However, capital expenditure—chiefly on projects already in progress—will rise sharply this year to about £200m. worldwide, compared with £112m. last year. U.K. capital expenditure will be up from £65m. last year to about £130m. this year.

The bigger schemes are aimed at enhancing existing areas of BP Chemicals business.

In partnership with ICI it is building a £150m. ethylene plant at Wilton on Teesside, which is due for completion at the end of the year—12 months behind schedule.

Park West for sale

By John Brennan, Property Correspondent

PEACHEY Property Corporation has received 150 inquiries, "several of which are serious," from potential buyers of its Park West residential block near Marble Arch, London, says Mr. John Brown, managing director. Park West, held by Peachey on a 120-year leasehold from the Church Commissioners, could earn about £2m. a year in short letting income, says Allison Peachey's selling agents. The block is likely to sell for between £10m.-£12m.

Profit safeguards essential—CBI

BY ELINOR GOODMAN, CONSUMER AFFAIRS CORRESPONDENT

THE GOVERNMENT has been urged to resist pressure from MPs to abolish the profit safeguards written into price controls.

The Confederation of British Industry said that the safeguards were essential to industry and could not be said to have inhibited the Price Commission's effectiveness. It was "nonsense" to describe them as loopholes, as some Labour MPs had done.

Mr. Ronald Utiger, chairman of the confederation's prices committee, said that most commission members had shown themselves to be "reasonable" and had exercised their powers responsibly.

But the legislation gave the commission wide discretionary powers and it was essential that industry should be given guaranteed protection against abuse of these powers.

Pressure has been building up in recent months among some MPs for tightening up of the safeguards.

The safeguards restrict the commission's powers to recommend a freeze in prices if doing so would reduce a company's profits beyond a certain point.

When Allied Breweries was allowed to raise its prices by 3p a pint though it was being investigated by the commission, Labour and Liberal MPs demanded a tightening of the safeguards.

Mr. Roy Hattersley, the Prices Secretary, said that he was keeping the situation under review. He was asking the commission to inform him of any examples where it was being inhibited by operation of the safeguards.

The CBI is worried that Mr.

Hattersley will try to get the changes through the Commons this summer when he lays the orders which will be needed when profit margin controls expire in July.

Mr. Utiger said yesterday that he was "alarmed" by the commission's recent recommendation that the Ever Ready battery company should be forced to curb its proposed price increases to 2 per cent.

The commission had praised the company's efficiency but recommended that its prices should be restricted to a level which would yield a rate of return of only 101 per cent. on a current accounting basis.

The clear implication of this, he said, was that even an efficient company should not be allowed to earn more than 101 per cent.

Traded option could cost £15

BY MARGARET REID

THE SYSTEM of commission the council of the Stock Exchange envisaged for deals in London's traded share options market, which opens on April 21, includes a provision that there should be a minimum charge of £15 unless the value of the transaction is less than £20.

The scale of charges worked out, subject to final approval by

per cent. on any amounts above £5,000 up to £10,000 and 1 per cent. on the excess beyond £10,000.

Although the minimum charge normally will be £15 for any option contract, a broker, if the total consideration is less than £20, may charge the basic option contract fee of £2.75 only.

BOND DRAWING

CITY OF TURIN
U.S.\$ 9% Bonds 1991

S. G. WARBURG & CO. LTD., announce that Bonds for the nominal amount of U.S.\$500,000 have been drawn in the presence of a Notary Public, for the redemption instalment due 1st May, 1978.

The numbers of the Bonds so drawn are as follows:

7	34	51	59	87	104	124	142	162	182
202	220	236	254	272	289	306	326	343	362
380	395	413	431	447	471	490	507	531	547
565	589	605	635	652	671	689	705	732	750
751	791	809	825	850	866	884	902	919	943
961	986	1020	1043	1061	1080	1102	1120	1136	1153
1173	1191	1220	1263	1280	1302	1320	1335	1365	1392
1412	1433	1450	1469	1493	1510	1530	1553	1570	1587
1604	1622	1640	1655	1682	1700	1715	1735	1761	1776
1794	1811	1829	1847	1867	1886	1904	1921	1942	1973
1991	2027	2069	2086	2105	2139	2155	2173	2209	2226
2243	2269	2287	2307	2335	2353	2371	2399	2414	2432
2450	2492	2516	2534	2554	2573	2591	2607	2627	2644
2664	2696	2713	2740	2755	2780	2796	2813	2850	2870
2892	2910	2929	2947	2965	2982	3000	3020	3041	3065
3091	3107	3125	3152	3170	3194	3215	3234	3262	3269
3286	3304	3321	3347	3367	3385	3403	3420	3436	3472
3489	3515	3536	3553	3561	3565	3580	3700	3722	3800
3816	3833	3854	3871	3889	3906	3923	3941	3959	3974
3992	4010	4026	4044	4073	4100	4127	4182	4221	4240
4282	4339	4354	4372	4390	4407	4425	4443	4460	4481
4502	4530	4547	4564	4590	4611	4631	4649	4669	4686
4722	4783	4811	4829	4873	4893	4914	4931	4949	4965
4983	5019	5034	5052	5074	5091	5124	5174	5199	5216
5233	5263	5271	5287	5305	5323	5341	5359	5374	5392
5410	5426	5444	5462	5480	5496	5514	5531	5549	5565
5583	5605	5622	5640	5661	5676	5694	5711	5729	5746
5763	5781	5802	5819	5835	5852	5869	5913	5930	5947
5965	5982	6000	6016	6033	6051	6067	6085	6103	6120
6135	6163	6180	6196	6222	6276	6335	6376	6394	6412
6411	6429	6445	6476	6493	6510	6550	6580	6595	6612
6631	6667	6711	6742	6786	6803	6882	6912	6934	6952
6989	7006	7024	7055	7109	7125	7142	7159	7174	7191
7207	7224	7241	7258	7273	7291	7306	7323	7340	7355
7372	7389	7405	7422	7439	7454	7471	7487	7504	7521
7536	7553	7570	7586	7603	7620	7635	7652	7669	7685
7699	7715	7734	7751	7767	7784	7801	7816	7833	7850
7866	7883	7900	7915	7932	7949	7965	7982	7999	8014
8031	8047	8064	8081	8096	8113	8130	8146	8163	8180
8196	8212	8229	8245	8262	8279	8294	8311	8327	8344
8361	8376	8393	8410	8426	8443	8460	8475	8492	8509
8525	8542	8559	8574	8591	8607	8624	8641	8656	8673
8690	8706	8723	8740	8755	8772	8789	8805	8822	8839
8854	8871	8887	8904	8921	8935	8953	8970	8986	9003
9020	9035	9052	9069	9085	9102	9119	9134	9151	9167
9184	9201	9216	9233	9250	9266	9283	9300	9316	9332
9349	9365	9382	9399	9414	9431	9447	9464	9481	9496
9513	9530	9546	9563	9580	9595	9612	9629	9645	9662
9679	9694	9711	9727	9744	9761	9776	9793	9810	9825
9843	9860	9875	9892	9909	9925	9942	9959	9974	9991

On 1st May, 1978, there will become due and payable upon each Bond drawn for redemption, the principal amount thereof, together with accrued interest to said date at the office of:—

S. G. WARBURG & CO. LTD.,
30, Gresham Street, London, EC2P 2EB.,

or with one of the other paying agents named on the Bonds.

Interest will cease to accrue on the Bonds called for redemption on and after 1st May, 1978 and Bonds so presented for payment must have attached all coupons maturing after that date.

U.S.\$6,500,000 nominal Bonds will remain outstanding after 1st May, 1978.

The following Bonds drawn for redemption on dates stated below have not yet been presented for payment.

1st May, 1972
Nos: 2768 : 6968
1st May, 1973
Nos: 317 : 2777 : 3717 : 4197 : 8837
1st May, 1974
Nos: 318 : 2778
1st May, 1977
Nos: 316 : 346 : 1902 : 2619 : 4236

30 Gresham Street, London, EC2P 2EB.

31st March, 1978

Boost tree planting, report urges

BY MAX WILKINSON

FURTHER EFFORTS to increase the supply of home-grown timber and waste paper for recycling are proposed in a report published today by the National Economic Development Council Sector Working Party on Paper and Board.

The report says that 15 per cent. of the industry's wood pulp requirements are home grown, compared with a long term target of 25 per cent.

However, the present rate of planting is not thought to be sufficient to attain the target before the year 2000. The working party is concerned about the effects of fiscal legislation which has led to a drop in the planting rate in the private sector.

The working party wants closer co-operation between timber growers and users and it

wants Government policies aimed to encourage private planting.

It says the aim should be the establishment of 2.5m. hectares of productive woods and forests by the year 2000.

Efforts should also be made to improve the collection of waste paper, mainly from households, to match the expected 500,000 tonnes increase of consumption (25 per cent.) between 1976 and the early 1980s.

"It is estimated that by 1980, assuming the continuance of present trends, there could be a shortfall of certain grades, particularly of mixed wastes unless increases in recovery rates currently being planned are achieved."

"Since most pre-consumer waste is already collected, this

means increasing the collection of post-consumer waste by voluntary groups, merchants and local authorities."

Total purchases from local authorities dropped 40 per cent. between the first half of 1970

and the second half of 1976. "The reasons for this decline include the cyclical nature of demand, the absence of any stabilising influence other than the mills' limited ability to hold stocks, restructuring of English local authorities in 1974, and current financial constraints on local authorities."

The paper industry regards local authorities as an important source of mixed waste and would like to see more joint schemes between authorities and private merchants, including mills.

Schemes for improving waste

paper collection should qualify for Government aid, says the report, and the industry should press forward with a plan for an excess stock scheme to even out the cycles of demand.

In a general review of the industry, the working party says that U.K. consumption of paper and board rose at an annual rate of 2.7 per cent. between 1963 and 1974 from 5.6m. tonnes to 8m. tonnes, but dropped to 6m. tonnes in 1975, rising again to 7m. tonnes last year.

In the decade up to 1974, U.K. production rose by 0.6 per cent. a year, less than a quarter of the rate of increase in consumption.

By 1974 output was 4.6m. tonnes, which dropped to 3.6m. tonnes in 1975 and rose again to 4.1m. tonnes last year. The proportion of U.K. con-

sumption which was imported rose from 29 per cent. in 1963 to 44 per cent. in 1975.

The increase in import penetration, has, however, been dominated by the reduction of U.K. capacity in newsprint in the face of competition from large integrated mills in Scandinavia and Canada.

Production of tissues has increased by 27 per cent. in the last decade and in this sector, U.K. manufacturers are estimated to have over 90 per cent. of the home market.

Productions in other parts of the industry has shown a decline since 1970 ranging from 16 per cent. in printings and writings, 17.5 per cent. in board to 0.4 per cent. in corrugated case materials.

Come in 'Flyer' You've earned your Trophy.

Whitbread Trophy Bitter.
Big enough to satisfy
your beer buds.

PROVISIONAL RESULTS: 1st. Flyer (Holland) 2nd. Kings Legend (G.B.) 3rd. Traite de Rome (E.E.C.) 4th. Disque d'Or (Switz.)

HOME NEWS

Roadline makes £2m. turn-round to show profit

BY CHRISTOPHER DUNN

ROADLINE U.K., the National Freight Corporation's parcel delivery arm, made a £2m. recovery into profit last year, Mr. Arthur Smith, managing director said in London yesterday.

Trading profits this year should exceed nearly 50 per cent, he forecast, after detailing investment plans worth over £13m. for the next two years. Most of the money will be spent with British Leyland.

Recovery had been based on a successful drive into the commercial parcel delivery business and away from the more costly person-to-person end of the market. A management shake-up, plus phased redundancies had also helped.

Trading profits for the year ended December 31 were £300,000 compared with losses the previous year of £1.1m. All parts of the company, which has 75 branches throughout the country, showed an improvement, apart from Scotland, where there were losses.

The upturn at pre-dividend level was also £2m. following higher pension charges of £300,000; redundancy costs; and £300,000 of interest charges. Sales at Roadline, formerly British Road Services Parcels, rose just over 7 per cent to £46.6m.

The company should make £1.5m. at trading level, Mr. Smith forecast for this year, as Roadline expanded its High Street delivery business to big retailers such as British Home Stores. The mail-order delivery side should also expand, along with cigarettes, wines and spirits freightage.

The value of goods carried increased last year by more than 17 per cent, although volume sales had fallen. This was part of a deliberate policy to diversify out of low-value single-consignment business.

The labour force was cut by 6 per cent to about 8,000 last year, while head office charges fell by 10 per cent.

New vehicles and better handling equipment accounted for the bulk of the £13m. capital expenditure programme, £9m. of which would be placed with British Leyland.

Selective retirement backed

BY ERIC SHORT

THE DEPARTMENT of Employment favours selective early retirement schemes such as the job release schemes as a better method of reducing unemployment rather than a general switch to 60 as the retiring age for men. The latest Department of Employment Gazette, says that a general reduction in retirement age would have the greatest impact on unemployment over the

medium term, but would not be cost-effective relative to selective schemes.

The Department forecasts that there could be an immediate reduction of 200,000 in the number unemployed and when industry had fully adjusted to the change, then unemployment could be 600,000 lower. But the net cost would amount to more than £1bn. a year.

Sea gas may provide offshore electricity

BY RAY DAFTER, ENERGY CORRESPONDENT

NORTH SEA natural gas may be pany set up by the Government collected in the future through new pipelines and floating liquefaction plants according to Mr. reports to be considered by Anthony Wedgwood Benn, Energy Department official.

It is also possible that some of the gas will be converted offshore into methanol—a basic petrochemical—or used to generate electricity which could be transmitted to shore by undersea cables.

Studies into these schemes are being completed and it is likely that within the next 12 months the Government will sanction at least the start of a new collection system.

This could involve the construction of spur pipelines linked to the main Brent or Frigg gas trunk lines. Initial estimates suggest that these new links, tapping gas from reservoirs in the central and northern parts of the North Sea, could cost about £250m.

Gas Gathering Pipelines (North Sea), a consultative com-

pany set up by the Government to study the possibility of using floating liquefaction plants.

This report is to be submitted within the next day or two. However, it appears that Brown-Vosper believes that the use of these offshore plants would be technically and economically viable and a safe solution to the handling of pockets of gas.

The idea likely to be put to the offshore supplies office is that a series of units should be constructed. They could then be moved from one block to another as gas reserves are exhausted.

A small unit, capable of handling 40m. cubic feet of gas a day might cost about £50m, while a plant capable of handling 400m. cubic feet a day could cost about £400m.

Mrs. Thatcher hits at State control

BY JOHN HUNT, PARLIAMENTARY CORRESPONDENT

STATE CONTROL and high concern of politicians, but it was levels of public expenditure cut, not that they say this, that in for criticism yesterday from Mrs. Margaret Thatcher, leader and humbly performed by the of the Opposition, in an address to Christianity and politics at St. Lawrence Jewry Church in the City of London.

Mrs. Thatcher outlined her fundamentalist Conservative philosophy. The relief of poverty and suffering must be a primary

Builders demand tax cuts

By John Brennan, Property Correspondent

THE CONSTRUCTION industry looking for Budget increases in public building expenditure. It is still seriously short of work, and condemns "the costly burden of legislation and bureaucratic delay" that is adding to its problems.

The points emerge from a report by the Joint Economic Advisory Panel of the building industry, which represents the main construction organisations in the professional, building and contracting and materials supply industries.

The consultative committee calls for encouragement of industrial building by tax concessions, as a key priority since, it says, recent surveys show that industrialists are ignorant of the contribution modern buildings may make to industrial production.

Michael Dixon, Education Correspondent, writes: The Construction Industry Training Board decided in London yesterday to increase levy rates on employers to safeguard supplies of skilled workers during the continuing recession in the industry.

The main levy rate for building craft employees is to rise, for the first time in three years, from £20 to £23, and is likely to rise again in 1979 to about £25.

INTEROX, the peroxide chemical company jointly owned by Laporte and Solvay of Belgium, is to make its first entry into the lucrative U.S. market.

The parent companies announced yesterday the formation of Interox America, which as a first step is to invest several million dollars in constructing two plants at Deer Park, Houston, Texas. The investment is thought to be in the region of \$30m to \$40m.

One plant will be for the production of hydrogen peroxide, with a capacity of some 40,000 tonnes a year, and a second plant will produce substantial tonnage of sodium percarbonate.

Hydrogen peroxide is used as a bleach in the paper and textile industries, and sodium percarbonate is used in detergent powders. The turnover of Interox in 1976 was £100m. The company has plants in five continents, but a major weakness has been its lack of a presence in the U.S.

The plants will join the complex of Solvay Polymer Corporation, the Solvay U.S. subsidiary, Anair from its 50 per cent share in Interox. Solvay also has a 24.9 per cent direct stake in Laporte.

The two companies formed Interox in 1970 to establish a major presence in the world league of peroxide companies.

Commercial property investment was outperformed by both equities and gilts between March 1974 and the end of last year. But the after-effects of the property crash have now worn off.

Commercial property has again become a prime investment medium, according to the latest Analysis of Commercial Property Values, produced by The Economist Intelligence Unit on a commission from estate agents, Michael Laurie and Partners.

Hatton facelift
Hatton Garden, centre of the jewellery trade in London, is to be given a facelift—including a partial ban on traffic—under plans being considered by Camden Council.

Shops affront
The shop fronts of many leading British chain stores, including Boots, British Home Stores and the Co-op, are criticised for their poor design in

Engineering shows marginal growth

BY JAMES McDONALD

OUTPUT by the engineering industry in 1977 was only marginally higher than in 1976, with a slight decrease in production by each of the three main sectors in the fourth quarter.

The index for all engineering industries last year, at 103.9 (1970=100), compared with 103.6 for 1976.

For 1977 as a whole output of the mechanical engineering industries was 2 per cent lower than in the previous year. In the relatively small instrument engineering sector, however, output rose by 2.5 per cent, and in the electrical engineering industries it went up 3 per cent.

Within mechanical engineering, the main exceptions to the gradual decline in output were pumps, valves, compressors and fluid power equipment, industrial engines, office machinery, and the combined group of weighing machinery and portable power tools.

All these industries showed some further increase in the fourth quarter of last year, together with production of agricultural, textile, mining and other non-electrical machinery, which made some recovery from previously falling or subdued trends.

The electrical engineering, experience in 1977 was mixed, according to figures by the Department of Industry in its Journal Trade and Industry. The growth of 3 per cent, over 1976, was entirely in the high-technology electronics industries.

Electronic components, computers and electronic capital goods showed marked increases in output, of 11, 15 and 10 per cent respectively. The precise rates of growth made difficult to measure accurately in constant-price terms because of continuously developing technology.

Electrical machinery, the wires and cables industry, and electric parts for vehicles showed similar smaller increases. Output of the telecommunications equipment industry declined appreciably, by 18 per cent.

Output of many sections of electrical engineering slackened towards the end of the year. An increase as between the third and fourth quarters appeared only for electronic components, records and tapes, and electronic capital goods.

Figures for the computer industry changed markedly during the final two months, and the fourth-quarter index, at 108.8, was 30.6 points below the exceptionally high third-quarter figure of 218.4. However, the fourth-quarter figure was still 13 per cent higher than the average for 1976.

The electrical engineering, experience in 1977 was mixed, according to figures by the Department of Industry in its Journal Trade and Industry. The growth of 3 per cent, over 1976, was entirely in the high-technology electronics industries.

Electronic components, computers and electronic capital goods showed marked increases in output, of 11, 15 and 10 per cent respectively. The precise rates of growth made difficult to measure accurately in constant-price terms because of continuously developing technology.

Electrical machinery, the wires and cables industry, and electric parts for vehicles showed similar smaller increases. Output of the telecommunications equipment industry declined appreciably, by 18 per cent.

Output of many sections of electrical engineering slackened towards the end of the year. An increase as between the third and fourth quarters appeared only for electronic components, records and tapes, and electronic capital goods.

Figures for the computer industry changed markedly during the final two months, and the fourth-quarter index, at 108.8, was 30.6 points below the exceptionally high third-quarter figure of 218.4. However, the fourth-quarter figure was still 13 per cent higher than the average for 1976.

The electrical engineering, experience in 1977 was mixed, according to figures by the Department of Industry in its Journal Trade and Industry. The growth of 3 per cent, over 1976, was entirely in the high-technology electronics industries.

Electronic components, computers and electronic capital goods showed marked increases in output, of 11, 15 and 10 per cent respectively. The precise rates of growth made difficult to measure accurately in constant-price terms because of continuously developing technology.

Electrical machinery, the wires and cables industry, and electric parts for vehicles showed similar smaller increases. Output of the telecommunications equipment industry declined appreciably, by 18 per cent.

Output of many sections of electrical engineering slackened towards the end of the year. An increase as between the third and fourth quarters appeared only for electronic components, records and tapes, and electronic capital goods.

Figures for the computer industry changed markedly during the final two months, and the fourth-quarter index, at 108.8, was 30.6 points below the exceptionally high third-quarter figure of 218.4. However, the fourth-quarter figure was still 13 per cent higher than the average for 1976.

The electrical engineering, experience in 1977 was mixed, according to figures by the Department of Industry in its Journal Trade and Industry. The growth of 3 per cent, over 1976, was entirely in the high-technology electronics industries.

Electronic components, computers and electronic capital goods showed marked increases in output, of 11, 15 and 10 per cent respectively. The precise rates of growth made difficult to measure accurately in constant-price terms because of continuously developing technology.

Zaire living costs highest

FINANCIAL TIMES REPORTER

THE MOST expensive country in the world for a British expatriate is Zaire, it was claimed yesterday.

Employment Conditions Abroad, which collects data on jobs and living conditions abroad for B.P. I.C.I. Shell and other companies, estimates that it is 4.25 times more expensive for a British expatriate to live in Zaire than in the U.K.

Other comparisons with U.K. living costs at present exchange rates put Ghana near the top of the league with living costs 3.7 times the U.K. level and Japan at 2.3 times.

Cheapest is Mexico, where living costs are only 94 per cent of those in the U.K. The index is based on British consumption patterns.

Skateboard parks plan is attacked

Financial Times Reporter

PLANS FOR U.K. skateboard manufacturers to help to finance the construction of safety parks were attacked by the industry yesterday.

Manufacturers also criticised moves to ban all skateboarding in public as unrealistic.

The Royal Society for the Prevention of Accidents called on the trade this week to help to finance the construction of 20,000 skateparks throughout the country. It also urged a ban on the sport in streets and roads.

A levy of £160 a skateboard would be needed to reach the RSPA target. The Skateboard Manufacturers' Federation estimated. Building the parks could cost £50m.

Police in London have called on children to mark their skateboards with a secret sign to curb rising thefts.

SAUDI ARABIA

CLEARING AGENTS
& FORWARDERS IN
DAMMAM
Reliable and Efficient
AL-GHITA TRADING &
IMPORT ESTABLISHMENT
Tel: DAMMAM 22198

78
DETROP
INTERNATIONAL
FAIR
of food-
beverages-
equipment

FOOD - BEVERAGES - MACHINES
EQUIPMENT - TECHNOLOGY
ORGANIZING METHODS

April 14-19
Thessaloniki
Greece

Exchange rates and information
SEE, COMWARE, NEGOTIATE, ESTABLISH
CONTACTS, BE MORE EFFECTIVE.

Valuers' chairman
Mr. Clifford Tippet, chairman of Abbeyview Property Company, was appointed chairman of the Incorporated Society of Valuers and Auctioneers yesterday.

Student scheme
The National Union of Students wants courses for 16 to 19-year-olds introduced as part of a plan to extend university education to young workers and the unemployed.

Aston racer in auction
THE LAST factory-built Aston Martin team racing car is for sale. The Project DP 215 will come under the hammer at a Sotheby's auction of veteran, vintage and special interest cars next month and is expected to fetch about £20,000.

Also for sale is a 1927 Austin Windoor which has had just one woman owner since 1928. She was given it as a birthday present. The car was once owned by the Maharaja of Kalsia.

Anglo American Industrial Corporation Limited

(Incorporated in the Republic of South Africa)

Extracts from the review by the Chairman Mr. G. W. H. Relly

Amic's 1977 earnings were affected by the continuing decline in the performance of the South African economy. However, in view of the excellent results from the group's major subsidiaries, Anglo American Industrial Limited (Boart) and Scaw Metals Limited (Scaw) and the improved income from the corporation's portfolio of investments, the final dividend was increased although the group's net equity earnings decreased for the first time in seven years. This decrease was attributable to the sharp decline which took place in the markets for timber and related products. Since the year-end, discussions have taken place which should result in an improvement in the fortunes of these industries and I will elaborate on this aspect later in my review.

The group's net equity earnings fell by 5.5 per cent to R40.59 million, compared with earnings of R42.95 million in the previous year. Earnings per share decreased by 5.8 per cent from 160 cents in 1976 to 151.1 cents. The number of shares in issue decreased marginally following the issue of 16,500 shares in terms of the corporation's share incentive scheme.

Amic's own income from its investment portfolio increased by R1.36 million, or 16 per cent over the previous year, to R9.83 million.

Amic paid an unchanged interim dividend of 23 cents per share. The final dividend was increased by 5 cents to 48 cents, resulting in a total dividend for the year of 70 cents per share covered 2.2 times, compared with the 1976 dividend of 65 cents, which was covered 2.5 times.

The market value of the group's listed investments rose by R9.07 million at December 31 1977 to R65.15 million reflecting a 29 per cent appreciation over book value of R50.32 million. Since the year end, however, market values have declined, and at March 15 1978, they stood at R62.90 million. Unlisted investments have been valued by the directors at R53.31 million at December 31 1977 compared with last year's figure of R53.58 million.

Labour
In my 1974 review I commented on the enduring need to improve labour productivity in view of the escalating cost pressures evident in the secondary industry and also on the need to improve the utilisation of our manpower resources through the establishment of training centres and to develop motivation, skill and ability through the delegation of increasing responsibilities. Although there still much to be achieved, I am pleased to report that considerable progress is apparent. This is evident not only within Anglo American Corporation Group but also in many major companies in the industrial sector and in the attitude of the government itself. The appointment of the government of the Wiekahn Commission of Inquiry into labour legislation is to be welcomed and it is to be hoped that its findings will reveal the need for an intensification of current programmes.

There has been considerable progress within the Amic group. A number of companies have adopted the Paterson job grading plan with the ultimate aim of achieving a unified wage structure. At Anglo American the black training programme has been extended and developed to meet all the requirements of an in-company training centre as laid down by the Department of Education and Training. Instruction is given by fulltime and part-time instructors in 20 different trades and about 3,000 black employees received instruction in 1977. The Boart group also operates two fully-equipped training centres one of which is trained over 100 blacks in the operation of surface drilling rigs. This has been very successful and these courses

are being extended to cover more sophisticated drilling techniques, both on surface and underground, as well as supervisory skills. In line with the resultant improvements in productivity, the earnings of black drillers have tripled since 1974. At Highveld Steel considerable improvements in productivity have been achieved. Output measured in tons of steel per man year has increased by some 155 per cent from 84.1 in 1969 to 137.7 in 1977 and gross sales have increased six times from R5,000 per man year in 1969 to R30,900 in 1977. The new plate mill, commissioned in August 1977, is staffed mainly by black operators who received intensive training and who have produced excellent results. Technical training of white coloured and black workers is well advanced at Sigma, particularly in the fields of motor assembly, quality control and maintenance of vehicles, and in some areas, as a result of selected training programmes, productivity has improved by 65 per cent in the past year. In the timber sector, the Scaw group has established a manpower services technical training school in the Eastern Transvaal and an approved in-company training scheme has been operating since 1975.

The scheme not only provides training in various technical fields, but also covers psychological and job aptitude testing. In fact, a two-and-a-half year forestry training course has been introduced to train blacks to the level of forestry foreman while other employees are being specifically trained in the use of industrial relations techniques.

Future outlook
Although the penetration of upper levels of job categories by black employees becomes difficult in recessionary times, it is encouraging to note the advances that have been made; at the same time the present over-supply of labour enables employers to obtain and to select carefully the calibre of employee required. The establishment of training centres and the changing attitude of government towards the progress of blacks in industry is gradually leading to far-reaching changes in the structure of labour in South Africa. It is essential that this process should continue, despite the difficulties of the recession, and that it should result in a steadily improving use of labour resources and skills. Throughout this period the co-operation and help of the white trade unions will become increasingly important. It is pleasing to note that in many areas former hard-line attitudes have eased considerably and have been replaced by an awareness of the need to recognise that the fullest use of black labour could result in rising living standards for all sectors of the population.

The 14th annual general meeting of Anglo American Industrial Corporation Limited will be held in Johannesburg on Wednesday May 17th, 1978.
Copies of this review with the annual report are obtainable from the London office of the Company at 40 Holborn Viaduct, EC1P 1AJ, or from the transfer secretaries, Charterhouse Capital Limited, P.O. Box 102, Charter House, Park Street, Ashford, Kent TN24 8EQ.

FEATURES OF THE CONSOLIDATED FINANCIAL STATEMENTS			
	1977	1976	1975
Capital and reserves	R000's	R000's	R000's
	311 864	288 896	263 072
Listed investments			
Book value	50 324	50 719	47 877
Market value	65 152	56 080	56 152
Unlisted investments			
Book value	47 315	45 892	23 314
Directors' valuation	53 314	53 578	33 939
Other assets, net	214 225	192 264	191 881
Equity earnings* per share	40 582	42 948	40 918
	151.1 cents	160.0 cents	154.6 cents
Dividends per share	18 804	17 370	16 672
	70 cents	65 cents	63 cents
Number of shares in issue	26 861 947	26 845 447	26 480 639

* Excludes surplus on realisation of investments, amounts written off fixed assets, loans and unlisted investments, less recoveries, and currency surpluses or deficits.

The scheme not only provides training in various technical fields, but also covers psychological and job aptitude testing. In fact, a two-and-a-half year forestry training course has been introduced to train blacks to the level of forestry foreman while other employees are being specifically trained in the use of industrial relations techniques.

Future outlook
Although the penetration of upper levels of job categories by black employees becomes difficult in recessionary times, it is encouraging to note the advances that have been made; at the same time the present over-supply of labour enables employers to obtain and to select carefully the calibre of employee required. The establishment of training centres and the changing attitude of government towards the progress of blacks in industry is gradually leading to far-reaching changes in the structure of labour in South Africa. It is essential that this process should continue, despite the difficulties of the recession, and that it should result in a steadily improving use of labour resources and skills. Throughout this period the co-operation and help of the white trade unions will become increasingly important. It is pleasing to note that in many areas former hard-line attitudes have eased considerably and have been replaced by an awareness of the need to recognise that the fullest use of black labour could result in rising living standards for all sectors of the population.

There has been considerable progress within the Amic group. A number of companies have adopted the Paterson job grading plan with the ultimate aim of achieving a unified wage structure. At Anglo American the black training programme has been extended and developed to meet all the requirements of an in-company training centre as laid down by the Department of Education and Training. Instruction is given by fulltime and part-time instructors in 20 different trades and about 3,000 black employees received instruction in 1977. The Boart group also operates two fully-equipped training centres one of which is trained over 100 blacks in the operation of surface drilling rigs. This has been very successful and these courses

are being extended to cover more sophisticated drilling techniques, both on surface and underground, as well as supervisory skills. In line with the resultant improvements in productivity, the earnings of black drillers have tripled since 1974. At Highveld Steel considerable improvements in productivity have been achieved. Output measured in tons of steel per man year has increased by some 155 per cent from 84.1 in 1969 to 137.7 in 1977 and gross sales have increased six times from R5,000 per man year in 1969 to R30,900 in 1977. The new plate mill, commissioned in August 1977, is staffed mainly by black operators who received intensive training and who have produced excellent results. Technical training of white coloured and black workers is well advanced at Sigma, particularly in the fields of motor assembly, quality control and maintenance of vehicles, and in some areas, as a result of selected training programmes, productivity has improved by 65 per cent in the past year. In the timber sector, the Scaw group has established a manpower services technical training school in the Eastern Transvaal and an approved in-company training scheme has been operating since 1975.

The scheme not only provides training in various technical fields, but also covers psychological and job aptitude testing. In fact, a two-and-a-half year forestry training course has been introduced to train blacks to the level of forestry foreman while other employees are being specifically trained in the use of industrial relations techniques.

Future outlook
Although the penetration of upper levels of job categories by black employees becomes difficult in recessionary times, it is encouraging to note the advances that have been made; at the same time the present over-supply of labour enables employers to obtain and to select carefully the calibre of employee required. The establishment of training centres and the changing attitude of government towards the progress of blacks in industry is gradually leading to far-reaching changes in the structure of labour in South Africa. It is essential that this process should continue, despite the difficulties of the recession, and that it should result in a steadily improving use of labour resources and skills. Throughout this period the co-operation and help of the white trade unions will become increasingly important. It is pleasing to note that in many areas former hard-line attitudes have eased considerably and have been replaced by an awareness of the need to recognise that the fullest use of black labour could result in rising living standards for all sectors of the population.

The 14th annual general meeting of Anglo American Industrial Corporation Limited will be held in Johannesburg on Wednesday May 17th, 1978.
Copies of this review with the annual report are obtainable from the London office of the Company at 40 Holborn Viaduct, EC1P 1AJ, or from the transfer secretaries, Charterhouse Capital Limited, P.O. Box 102, Charter House, Park Street, Ashford, Kent TN24 8EQ.

British Airways to use Gatwick for Zurich run

BY MICHAEL DONNE, AEROSPACE CORRESPONDENT

BRITISH AIRWAYS plans next Monday to start its first international scheduled services from Gatwick Airport with flights to Zurich using One-Eleven jets.

While the airline has operated for many years with its British Airways holiday charter subsidiary from Gatwick, it has hitherto resisted a move to that airport with scheduled international services, preferring to concentrate on Heathrow.

But increasing congestion at Heathrow and growing competition from other airlines using Gatwick, has obliged it to make the move. British Airways intends to keep the bulk of its operations at Heathrow, but will probably increase its Gatwick

operations as passenger demand builds up.

With a £100m. modernisation scheme, now completed at Gatwick, designed to boost the airport's capacity from the present 6m. to 16m. passengers a year, it is comparatively un congested and is regarded by many travellers as a more pleasant place at which to begin and end a journey.

The Department of Trade is actively campaigning to encourage more foreign airlines to use Gatwick, and both the new service to the U.S. by Braniff International and Delta Air Lines, are being based on Gatwick instead of Heathrow.

Climax in landing systems battle

THE BATTLE between the U.K. and the U.S. to provide a new landing system for aircraft for the next 20 years or more comes to a head at a meeting starting in Montreal next Tuesday.

The All-Weather Operations Division of the International Civil Aviation Organisation—the aviation technical agency of the U.N.—will be considering the rival systems over a period of more than two weeks, until April 21, and by that time is expected to decide between them.

At stake will be orders worth more than £1bn. world-wide over the next ten to 20 years for the winning system. Under the Organisation's rules, no single manufacturer will have a monopoly of the winning system, either U.K. or U.S., and all the manufacturers involved will have the right to make and sell whichever system is chosen.

Nonetheless, the makers of the winning system will have a head-start over their rivals in world markets.

The overall requirement is for what is called a Microwave Landing System (MLS), a method of bringing greater numbers of aircraft in to land in all-weather conditions than is at present possible with existing Instrument Landing Systems.

To meet the Organisation's requirements, the British have developed what is called Doppler MLS, while the U.S. has developed what it calls Time-Space Scanning Beam (TRSB) MLS.

The rival systems have been and still are being tested at various major airports, but enough data has been produced on their respective merits to enable the organisation to go ahead with its meeting.

The U.K. system is developed by Plessey, with the aid of the Civil Aviation Authority, and it has been given the full support of the Government. The U.K. believes that Doppler is the safest of the two systems.

The U.S. system is developed by a number of companies, including Bendix, Texas Instruments and Hazeltine Corporation.

Lorry drivers' hours White Paper soon

BY LYNTON McLAIR

MOVES TO harmonise British law on commercial drivers' operating hours with EEC rules were announced yesterday by the Transport Department.

A White Paper will be laid before Parliament before the summer recess when union and transport industry comments on a consultative document have been reviewed.

The move follows the introduction to Britain on January 29 of EEC rules on drivers' hours and records. The rules are contained in EEC regulation 543/69 which applied to U.K. drivers on international journeys from April 1, 1973.

They have since been modified in Brussels so that their provisions for restricting hours could be phased into Britain's internal transport legislation over a three-year transitional period.

At the end of the period, on January 1, 1981, the EEC rules will apply in full on all journeys within Britain.

The EEC rules do not invalidate all the provisions of the Transport Act 1968 which also governs commercial drivers in Britain.

But the EEC rules, as now partially in force and as envisaged for 1981, do override the domestic code on driving time.

The 19-page consultative document sets out which of the 1968 provisions still apply. The Government hopes its proposals will enable drivers to make use of the greater flexibility of the EEC rules compared with the 1968 Act.

One of the main changes proposed concerns the maximum permissible period of continuous driving. EEC rules call for a minimum break of 30 minutes after five hours to be reduced in due course to four hours, and provide for shorter breaks instead at more frequent intervals.

Electricity demand less than expected

BY ROY HODSON

GROWTH in electricity demand is falling short of targets because of sluggish industrial production and almost static domestic demand.

The Central Electricity Generating Board for England and Wales expects only a 2 per cent. increase in electricity usage during the financial year 1977-78. A rise of at least 3 per cent. had been predicted.

But the Board hopes to break even in spite of the lower sales. Last year it made a profit of £129.8m. after paying interest charges—an increase of £71m. on the previous year.

If demand fails to improve, the Board may have to seek higher wholesale prices from area boards to avoid running into deficit.

It cannot give any hope in the short term of containing electricity prices by more efficient production.

The next major power station to come into production—the 3,200 MW Isle of Grain station—is oil fired.

At present, oil for power stations is 10 per cent. dearer than equivalent coal supplies. The next cost breakthrough for electricity generation will be in the early 1980s when advanced gas-cooled reactors are brought into production.

The South of Scotland Electricity Board yesterday announced price increases of 10 per cent. on domestic bills and 9.4 per cent. for industrial supplies. The Board will boost revenue by £28m. and expects to break even during 1978-79.

The Prices Commission is still investigating the increased charges and will report on June 12.

Repairs to the Hunterston B nuclear power station, where a sea-water leakage put one of the two generators out of action, have cost the SSEB £5m, the chairman, Mr. Roy Herring, said yesterday. Dearer fossil fuels to maintain output while repairs are carried out will cost up to £10m. in the coming year.

Mild weather cuts fuel use

BY RAY DAFT, ENERGY CORRESPONDENT

MILD WEATHER in November-January resulted in a 2 per cent. drop in total energy consumption, according to Government statistics published yesterday.

Compared with the corresponding period a year ago, there was a 9.5 per cent. drop in coal consumption. This was offset partly by a 2.4 per cent. rise in oil deliveries and smaller increases in consumption of natural gas and nuclear electricity.

The Government's Energy Trends report says that seasonal adjustments after correction for temperature effects and total energy consumption was running at about 0.5 per cent. higher than the previous year.

Total coal production from December-February was 1.5 per cent. higher than the corresponding period of 1967-77. The increase of nearly 500,000 tons in open-cast production more than compensated for the 200,000 tons decline in output from deep mines.

Overall productivity at National Coal Board mines, as measured by output per man shift, rose to 46 cwt, in February, 1.9 per cent. higher than in the corresponding month last year.

Total gas sent out in December-February was 5.5 per cent. higher than in 1976-77 with the greater part of the increase in February. Electricity supplied from November-January was 3.8 per cent. lower than a year previously.

Society's loss may exceed £600,000

By David Churchill

LOSSES incurred by the Grays Building Society could be greater than those uncovered in the last building society crisis two years ago.

The exact extent of the financial irregularities uncovered in Grays' accounts after the death of Mr. Harold Haggard, the society's chairman, are due to be disclosed to-day by the Building Societies Association.

The irregularities could be greater than the £500,000 discovered by the Wakefield Building Society in 1976. Grays' assets of £11m. are under half those that were held by the Wakefield at the time its losses were uncovered.

Details of the Grays' losses have been passed to the Building Societies Association by a team of executives from the Woolwich Equitable, who have been investigating the society's activities.

The size of the losses at Grays came as a surprise to the building societies movement.

The five biggest societies are believed ready to provide financial support to Grays pending a long-term decision on its future.

This rescue operation means that no depositor will lose any savings.

International drops stamps in 40 stores

BY OUR CONSUMER AFFAIRS CORRESPONDENT

GREEN SHIELD trading stamps are to be dropped by International Stores, the BAT Industries supermarket chain, in another 40 of its 720 stores.

The shops, all in the South of England, are to be converted to the new kind of cut-price Pricerite formula which International has been using in some of its smaller stores in the North for three years.

Instead of giving stamps in these stores, BAT is concentrating on offering the lowest possible prices—the company claims they are 5 per cent. lower than in a traditional supermarket—on a limited range of merchandise.

To make money on trading at these very reduced margins, the stores need to show a big increase in volume, and BAT said yesterday that it was hoping that the conversions would lead to at least 35 per cent. increase in sales.

International took over the Pricerite group in 1973, but the shops now trading under the Pricerite name bear little resemblance to the old stores.

The new stores, similar to those run by Fine Fare under the Shoppers Paradise name, stock only a narrow range of goods—500 to 600 lines—and operate on very low gross margins. Costs are reduced to a minimum.

The company now has about 750 stores.

VW, Audi extend warranty

Financial Times Reporter

VOLKSWAGEN AND AUDI are to introduce insurance to extend the warranty on major components after the initial 12 months.

For payment of £39 for one year, or £85 for two, all cars sold by VW and Audi dealers will be covered.

Used cars will need to have run less than 50,000 miles. The scheme will also apply to other makes sold by VW and Audi dealers. It is being run by Auto Union Finance, jointly owned by Volkswagen GB and Lloyds and Scottish.

Cover for VW commercials will cost £49 for one year and £75 for two.

Thanks to your get up and go, we offer more places in Europe to get up and go to.

We fly to more international destinations in Europe from our home base than any other European airline flies from theirs.

And with good reason.

Over the years, the initiative of the British businessman has taken him to markets

that many of his European competitors have been slow to exploit.

So as British trade has grown so has our route map.

Today, flying to more than just the obvious places gives you a distinct edge.

Because while your competitors are sitting around waiting for connections, you can already be getting down to business, having flown directly to your destination.

When you travel to Europe, fly the flag and feel at home.

British Airways 58 European destinations from Heathrow.

Air France 48 European destinations from Paris.

KLM 46 European destinations from Amsterdam.

SAS 45 European destinations from Copenhagen.

Swissair 39 European destinations from Zurich.

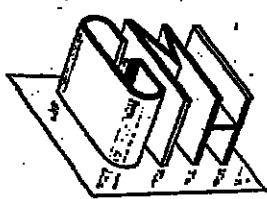
Lufthansa 38 European destinations from Frankfurt.

Sabena 31 European destinations from Brussels.

Alitalia 27 European destinations from Rome.

Iberia 23 European destinations from Madrid.

Figures shown based on airline company timetables.



GLASS & METAL HOLDINGS LTD.

Profits reach New Record level

An extract from Mr. A. Bowman's Review

The Group broke through the one-million pound profits barrier for the first time in its history and achieved profits before taxation of £1,052,009, an increase of 29% despite a minimal contribution from the engineering division as a result of the downturn in the Construction Industry.

Financial Results

Year to 31st October	1977	1976
Turnover	£5,930,107	£5,137,417
Profit before Tax	£1,052,009	£814,205
Dividend	30.25p	27.50p
Earnings per Share	14.2p	13.2p
Balance Sheet Value per Share	100p	79p

COMPANY ANNOUNCEMENT

ANGLO AMERICAN CORPORATION OF SOUTH AFRICA LIMITED

(Incorporated in the Republic of South Africa)

PRIVATE PLACING OF PREFERENCE SHARES

Agreement has been reached for the Corporation to make a private placing on or about the 1st July 1978 with certain local institutions of R40 million 104 per cent redeemable cumulative preference shares, which will carry no conversion rights. The issue will have an average life of approximately eight years.

The proceeds of the issue will be used to finance ongoing commitments of the Corporation.

A general meeting of members of the Corporation will be called to consider the necessary resolutions for the issue of the preference shares by the directors and a circular giving the notice of the meeting and full details will be sent to members in due course.

London Office:
40 Holborn Viaduct
EC1P 1AJ

Johannesburg
March 31st 1978

British airways

We'll take more care of you



LABOUR NEWS

ASLEF told to seek internal settlement

BY NICK GARNETT, LABOUR STAFF

ASLEF, the train drivers' union, which threatened a series of one-day strikes in a pay dispute, has been told by an independent inquiry panel to sort out its grievances within British Rail's existing negotiating procedures.

The panel, under Lord McCarthy, chairman of the Railway Staff National Tribunal, the highest tier in the railway negotiating structure, but sitting as an independent advisor, said ASLEF's grievances should be given priority.

If agreement cannot be reached at the Railway Staff Joint Council, the lowest of the three negotiating tiers for major issues, it should be handled by the Railway Staff National Council and, if necessary, by the Railway Staff National Tribunal.

ASLEF, which is seeking similar "commission" payments for all footplatemen to those negotiated for 1,600 National Union of Railwaymen pay-train guards, had the option of taking the issue

through the industry's negotiating structure, as the panel now suggests, long before discussions broke down and the strikes were threatened at the end of February.

By bringing the issue to a head, however, ASLEF managed to bring into public view what it believed to be a "sectional" pay deal that ran counter to the industry's 1974 pay restructuring exercise.

It also provided ASLEF with an extra bargaining lever in this year's pay and productivity talks, which involve staff shuffling throughout the industry.

The panel — the setting-up of which led to ASLEF rescinding its strike notice — says the claim should be heard by the joint council, not more than ten days after it has been tabled by ASLEF.

The panel's report, welcomed yesterday by the British Railways Board, says British Rail should

Water workers vote 2-1 for 10% rise

BY OUR LABOUR STAFF

MEMBERS of the General and Municipal Workers Union in the water industry have accepted a pay offer within Government guidelines.

The 20,000 workers, the largest group in the industry's 33,000 workforce, voted 2-1 by postal ballot in favour of the management's offer.

All manual workers in the industry have now accepted the deal following acceptance by members of the Transport and General Workers Union and the National Union of Public Employees.

The deal, back-dated to December, will give increases of 5 to 17 a week on current average earnings of £55 to £71.

Shift allowances and sick pay have also been improved, and the wage structure will now be reviewed. The three unions, which had been seeking a firm-type forward commitment, are also hoping to extend and improve existing bonus payments.

The rail unions, and manual workers in the electricity industry, are the only groups in the public sector with real industrial strength who have still to settle during this wage round.

There have already been indications that power workers will eventually accept their pay offer of 10 per cent, together with a productivity deal worth 5 to 8 per cent.

Number of strikes fell last month

BY PHILIP BASSETT, LABOUR STAFF

THE NUMBER of strikes fell nearly two-thirds of all the strikes last month, with 12,800 employees involved in 1,280 stoppages, according to figures from the Department of Employment.

A total of 537,000 working days were lost, the lowest monthly total since July last year.

Dismissal and disciplinary measures caused 13.3 per cent of the stoppages, and working conditions and supervision, causing 10.2 per cent of stoppages, were the only two problems of any major significance except pay.

The number of working days lost through strikes in the first two months of the year was 175,000 up on the same period last year.

The number of strikes was down by 48 on January's total of 183, and the number of workers involved in stoppages was down by 34,000. Last year's strike figure showed an upward trend, a marked reversal of the falls of the previous two years.

Pay was the principal cause of

caused 3,000 workers to be laid off.

● An estimated total of 1,747,600 employees in manufacturing industries, 33.6 per cent of the total number, worked overtime in the week ended January 14, 1978. An average of 8.4 hours overtime was worked per employee, giving a seasonally adjusted total of 14,632,000 hours.

In the same week, the estimated number on short time in these industries was 46,900, or about 0.9 per cent of all employees, each losing 16 hours on average.

● The total number of employees in employment in January in industries covered by the index of industrial production was 9,088,000, a fall of 45,000 from the previous month's figure.

The seasonally adjusted figure, however, rose by 6,000 compared with December 1977, to 9,111,000, still lower than the seasonally adjusted peak of 9,183,000 in June last year.

Townsend Thoresen dispute settled

BY OUR LABOUR STAFF

THE UNOFFICIAL seamen's strike that disrupted Townsend Thoresen ferry services to Scotland and Ulster over Easter has been called off and sailings resumed early yesterday.

The men, mainly based at Felixstowe, Suffolk, were protesting at the sacking of an assistant steward after he was convicted of a drugs offence.

After a meeting in London on Wednesday between management, National Union of Seamen officials and the striking seamen's port committee, the men agreed to drop their claim for reinstatement of the steward and resume work.

They also agreed that other issues involved in the dispute—such as payments and manning levels—could be discussed after a return to normal working.

Townsend Thoresen agreed that there would be no loss of jobs for seamen involved in the dispute.

The 13-day-old strike disrupted holiday sailings from Felixstowe to Rotterdam and Zeebrugge as well as Townsend Thoresen's service between Cairn Ryan in Scotland and Larne in Northern Ireland.

The strikers were given seven days' notice for starting their industrial action and their union urged them to go back to work.

Port slacker

TOURIST TRAFFIC through the port of Dover last month was down on the corresponding period last year—passengers by 2.61 per cent and cars by 6.24 per cent. Last year was exceptional because of industrial problems at Rotterdam.

Pitmen killed

TWO MINERWORKERS were crushed to death at the Lady Windsor Colliery at Ynysbwl, South Wales, yesterday. Surface fitters, they were working beneath a tram lift.

Steel workers create plan to save jobs

WORKERS AT British Steel, Bilston, Staffs., will meet today to consider ways to save their jobs. Shop stewards have compiled a plan for alternative production which, they say, will keep the plant economic well into the 1980s.

The plan was drawn up after British Steel in Sheffield gave a warning that the works could be closed because of the industry's general recession.

The 2,400-strong workforce will be asked to approve the plan at a meeting today. It has been compiled with management consent over the past six months.

Details are being kept secret but it is understood that the scheme involves the introduction of an electric arc furnace. There are also proposals for a switch in production to supply smaller specialist steel orders in the West Midlands.

Mr. Dennis Turner, action committee chairman, said yesterday: "We will be giving the workforce a précis of the plan and asking for approval. This is a solution to keep us in work."

Output higher, but mine is to close

BY JOHN LLOYD

A SOUTH WALES colliery will close within two years, in spite of a temporary reprieve and greatly increased production.

Deep Duffryn Colliery at Mountain Ash, Mid-Glamorgan, made a £40,000 profit last month after showing average monthly losses of more than £50,000.

Output per manshift rose from 23 cwt in January to 33 cwt in February. This is still far below the national average of 44 cwt, but it was hoped that the increase, which followed introduction of the bonus scheme, would guarantee the pit's future life for some time.

However, the South Wales region of the National Coal Board and the National Union of

Plan to log sea progress after loss of boat

BY OUR ABERDEEN CORRESPONDENT

It was announced yesterday in Aberdeen that marine boat skippers who fish the more distant North Sea grounds off Norway will meet coastguards in the chief offshore boat fishing port of Peterhead to discuss reports of special wavebands.

The Scottish Herring Producers' Association and Scottish White Fish Producers' Association, covering 450 boats in the north-east, have written to the Trade Department, Post Office telecommunications and the Home Office asking for consideration of a 24-hour waveband.

Belfast private hospital row

ULSTER officials of the Confederation of Health Service Employees have asked the Irish Congress of Trade Unions to back the construction of a private hospital in Belfast. They say it would provide favourable treatment for those who could afford it and would deprive the National Health Service of professional staff.

Merrill Lynch International now accepting orders for the European Options Exchange in Amsterdam



Earlier this year, Merrill Lynch International & Co. was admitted to membership on the European Options Exchange, and today we are pleased to announce that Merrill Lynch International offices around the world stand ready to accept orders for European Options Exchange transactions when trading commences next Wednesday in Amsterdam.

Merrill Lynch's Dutch affiliate, Merrill Lynch N.V., has also been admitted as a Clearing Member and a Floor Broker (as well as a Public Order Member), and its clearing office in Amsterdam at Dam 27 is now open for business. Financial institutions interested in availing themselves of these clearing services should get in touch with Geoffrey Stanley in Amsterdam (Tel. 20-26-4888).

Merrill Lynch has been a leading participant in the American options markets, and the experience and expertise gained there will now be available through our worldwide communications network at any of the Merrill Lynch International offices noted below.

There is little time to lose if you want to start dealing when the Exchange opens.

Merrill Lynch International & Co.

Branches and subsidiaries and affiliates in Abu Dhabi, Amsterdam, Athens, Barcelona, Bahrain, Brussels, Buenos Aires, Cannes, Caracas, Dubai, Düsseldorf, Frankfurt, Geneva, Hamburg, Hong Kong, Kuwait, London, Lugano, Madrid, Manila, Milan, Montevideo, Panama City, Paris, Rome, Rotterdam, Sao Paulo, Seoul, Singapore, Sydney, Taipei, Tokyo, Vienna, Zurich. Joint venture in Tehran Iran Financial Services Co.

Basnett urges TUC link to aid jobless

FINANCIAL TIMES REPORTER

THE GOVERNMENT and the TUC should get together to tackle unemployment, Mr. David Basnett, general secretary of the General and Municipal Workers' Union, said yesterday. He predicted that unions would not accept a further rigid wages policy.

Mr. Basnett told a meeting of the union's Scottish regional council that the union movement had a responsibility to do something about unemployment rather than leave it all to the Government.

He called on the Chancellor to use his resources, both now and in his deployment of North Sea revenues, to promote jobs, training, differentials and technological change in industry.

Humber dock deadlock

THE STRIKE of 30 supervisors at the Immingham-based Humber Graving Dock and Engineering Company, which has caused more than 700 men to be laid off, is near the end of its fifth week with no sign of a settlement.

Discussions by the employers and the technical and supervisory section of the engineering union, which represents the supervisors, have ended in deadlock.

The dispute has stopped all maintenance work at two oil refineries with which the company has contracts.

It started over the dismissal of three supervisors, who, the company says, were absent without leave. The other supervisors wait on strike, with a reinstatement demand which the company has refused.

The Randfontein Estates Gold Mining Company, Wit., Limited



Members of the Johannesburg Consolidated Investment Group of Companies.
Incorporated in the Republic of South Africa.

Western Areas Gold Mining Company Limited

Highlights from the 1977 Chairmen's Reviews

- * Profit for the year amounted to R47 435 000 and dividends to shareholders totalled R18 947 000 (350 cents). Capital expenditure of R110 756 000 was financed largely by long term consumer loans and bridging finance totalling U.S.\$103 800 000.
- * Underground operations were expanded to include both Cooke No. 2 shaft and the S.D. 33 shaft at Randfontein Section. The Millsite uranium plant was commissioned and the new integrated gold and uranium Cooke Plant is currently being commissioned well ahead of schedule.
- * Ore broken at Cooke No. 2 shaft and S.D. 33 shaft, surplus to the capacity of the Millsite plant, is being stockpiled on surface to provide a reserve of available ore when Cooke Plant commences milling in mid-1978.
- * Dewatering of the Randfontein Section has proceeded apace and the water level is now close to 21 level, 950 metres below surface. The re-establishment and re-equipping of each level and of stope faces is proceeding as planned. Stopping operations commenced in mid-1977.
- * A significant decrease in the overall gold recovery grade is inevitable when additional low grade ore from the Randfontein Section and Cooke No. 2 shaft is treated. Total production of gold will, however, be greater as a result of the increased throughput and uranium revenue will compensate for any effect on revenue of the lower average gold recovery grade.
- * Once Cooke Plant is on stream consideration will be given to further underground expansion and a decision to proceed with the sinking of Cooke No. 3 shaft is anticipated in the latter part of 1978.
- * An agreement has been entered into with the Johannesburg Consolidated Investment Company, Limited whereby Randfontein, has a 50% participation in prospecting for, and if economically feasible, the mining of uranium in the Karoo basin of the Cape Province and Orange Free State.

Johannesburg
30th March, 1978

Bernard Smith,
Chairman

- * Profit for the year was R14 011 000 and capital expenditure amounted to R6 688 000. Dividends totalling R5 240 000 (13 cents) were paid to stockholders.
- * Production was disrupted by a major underground fire and an estimated production loss of 238 000 tons milled was incurred. Fire fighting expenses amounted to R998 000 and an insurance settlement of R3 108 000 in respect of the loss of profits claim was received.
- * Progress towards the planned position of the S.V. 3 sub-vertical shaft continued to be hampered by the intersection of water-bearing fissures. However new strategies were implemented and better progress is now being made.
- * One of the primary objectives of the mine remains the attainment of a production level of 370 000 tons per month. It is intended to stockpile broken ore on surface in times of surplus underground labour in order to provide a reserve to be drawn upon when circumstances so require.
- * Within the financial constraints imposed on the mine by the extensive capital expenditure programme necessary to develop and exploit the southern section of its lease area, the Board intends to examine the possible exploitation of all accessible reef horizons for uranium.
- * Exploratory underground drilling from existing levels continued and uranium values show an encouraging consistency, particularly on the E9EC horizon. Development towards the area delineated by drilling as being the most favourable has commenced on 4S and 50 levels in order to confirm borehole results.
- * Feasibility studies are continuing to establish whether uranium production is viable.

P. A. von Wielligh,
Chairman

The Board of Directors of Elsburg Gold Mining Company Limited draws stockholders' attention to the highlights of the Review by the Chairman of Western Areas Gold Mining Company Limited.

SUMMARY OF OPERATIONS

Randfontein Estates

1977	1976	Year Ending 31st December.
1 131	944	Tons milled 000's
15.46	16.95	Recovery - grams per ton
R21.23	R18.11	Cost - per ton milled
R41.94	R39.02	Profit - per ton milled
U.S.\$145	U.S.\$123	Average price per ounce

Western Areas

1977	1976
3 579	3 585
6.00	6.37
R21.56	R17.22
R41.90	R45.7
U.S.\$147	U.S.\$120

The annual general meetings of these companies will be held in the board room, Consolidated Building, corner of Fox and Harrison Streets, Johannesburg on Wednesday 28th April, 1978 at Western Areas Gold Mining Company Limited 09h15; Elsburg Gold Mining Company Limited 10h15; The Randfontein Estates Gold Mining Co. Witwatersrand Limited 11h15.

Notes: Copies of the full Chairmen's Reviews and Annual Reports of each Company will be sent post-free on application by letter or telephone to:

The London Secretaries,
Barnato Brothers Limited,
99 Bishopsgate, London EC2N 3XE.
Tel. No. (01) 588-7011.

Name

Address

Technical Page

EDITED BY ARTHUR BENNETT AND TED SCHOETERS

SERVICES

Minis for business use

PLANNING to tap a growing mini-computer market in the East Midlands is Parr Computer Services which has just signed a contract with Honeywell to take between ten and 14 of that company's Level 6 mini-computers a year for sale to Parr customers. The OEM (Original Equipment Manufacturer) contract is open-ended, but Parr expects the systems to be worth up to £350,000.

Mike Bradshaw, Parr Computer Services' sales manager, has disclosed that his company

will be developing its own program packages for the Level 6 minis covering the standard commercial applications: accounting, ledgers, invoicing, stock control. The first systems are planned to be available around May this year.

Parr will be relying heavily on its years of experience in the computer bureau business, as well as the local nature of the services it offers, in attracting first-time users customers for Level 6.

More details from Honeywell on 01-568 9191.

U.K. data base plan

IN THE next few months, a technical database service which will draw heavily on U.K. sources and present major attractions for advanced industrial countries, including Japan, will be launched by Info-Line for on-line access.

Last year the latter organisation selected C.R.C. Information Systems, which describes itself as the largest independent service bureau in Britain, to run the database access system and CRC has just announced plans to acquire new computer power to do the job.

The existing Univac 1100/10 is to be upgraded to a twin-processor 1100/12, with a considerably expanded core memory, and disc capacity raised from 500 to a massive 7,000 Megabytes. Value of the new equipment, which will be installed and taken into service progressively, is £1.4m. It will be set up over the next two years.

The contract from Info-Line will run for five years and is estimated to cost £2.5m, calculated on volume of usage. It requires CRC to set up the Info-Line databases on the former's computers and to provide a remote access facility to Info-Line customers.

To date, the databases available represent as much as 8,000 Megabytes of information. They comprise those of The Chemical Society, The Institution of Elec-

trical Engineers and Derwent Publications and, obviously, cover an enormous bibliographic range of info. The service will spell sharp competition for others now becoming available such as that recently offered in Britain by Lockheed.

The CRC network has local dial-up to 13 multiplexing centres in the U.K. and major cities in Europe.

Meanwhile, the transfer of the SCAN stockbroking service from the stalwart Univac 415/111 to machines which have stood it in good stead for so many years is in progress. The Quotel portion of the service should be up and running next month. But the remainder of the SCAN support facilities is likely to take time of the longer in the making.

1100/12 not only because they are complex, but also due to the fact that they rely on vast amounts of archival information. At the same time, conversion from 415 with Fasttrans drums to the new technology machines with high capacity discs is not all that easy.

It is expected that the complete transfer will take to almost the end of next year to achieve and, of course, must be carried out so that users are unaware of the switch as far as possible. C.R.C. Information Systems, 53 Priests Road, London, EC1R 5HP. 01-242 0747.

PROCESSES

Cleaning components

ONE OF the latest centrifugal blast-cleaning machines devised by Vacu-Blast is now being used to increase output and cut metal finishing costs at the Chard, Somerset, works of Space decks.

This company manufactures roofing systems and one of the requirements is the cleaning and pretreatment of tube and angle pieces prior to electroplating painting. These components are up to four feet long.

At the Chard factory it was found that the very long blast track of the latest type of Scalomatic machine produced the required finish and this was achieved with a plant which used only four of the special Vacu-Blast tubular wheels (which are used to propel the abrasive) instead of the eight traditional abrasive-firing paddle wheels, each with a number of flat blades held between two faceplates.

The Scalomatic's wheel has

ceramic tubes instead of metal blades and one of the great advantages is that while the component is in the blast, it is not damaged by the abrasive.

Space decks' capital expenditure on plant of this type has been greatly reduced as, have maintenance costs. In addition, output has risen considerably and it was found that the one 71-hour period of operation (38 tons of components) was handled.

The fully enclosed plant, now past the running-in stage, is equipped with a mono-rail conveyor and is installed as part of an in-line process which starts with degreasing followed by abrasive blasting and ending with painting and stoving.

Vacu-Blast, which has its headquarters at Wotton House, Ajax Avenue, Slough, Berks. SL1 4DJ (Slough 26511) is a member of the BTR Group.

Taking the dust away

AN AIR humidifying unit has been added to the range of clean air control equipment offered by Dalesman Scientific Company, Pendlebury, Manchester, M27 2FH (061-794 8734).

The Mistflow 20 has an output of 20 lb per hour of fine mist, promising no resultant dripping or wetting and could humidify around 50,000 cubic feet of air per hour under normal working conditions.

The unit operates on the cold water atomising principle, utilis-

ing air nozzles to produce very fine mist which is then blown out by a recirculating fan. It is directional and by angling the atomising nozzles, higher humidity levels can be obtained in specific areas within large buildings.

The atomising nozzles are fitted with water filters to prevent blockage, and air drawn into the humidifier by the recirculating fan also passes an air filter with the result that dust particles are continually removed.

Removes the grease

TWO FULLY enclosed degreasing machines with inner components made from stainless steel are being marketed by Uddeholm.

One of the machines, the Automal, is a two-stage degreaser designed to handle baskets of components. The baskets are rotated during washing, usually in boiling trichloroethylene, and again during the drying cycle.

This machine will deal with between 15 and 20 baskets (each carrying up to 150 kg of parts)

per hour and it is fed by a roller conveyor.

The other machine, the Modulair Q, is designed for the individual cleaning of items such as rings and discs with complete separation to prevent surface damage. Additional modules can be added to the machine for drying, cooling or rust prevention processes. A variety of cleaning agents can be used.

Details of these machines can be obtained from Uddeholm at Crown Works Rubery, Birmingham B45 9 AG (021-453 6161).

COMPUTERS

Micro for consultants

MAEL 5000 is a new and fast microcomputer offered ideal for inclusion in software house and consultancy packages and for existing multiple users of minis.

Principal assets besides a 500 nano second cycle time are capacity to use much of the existing software for other minis and micros, and low prices for equipment of its kind.

IBM 2780, 3780 and Hesp W/S emulators are available, with other software interfaces due in the near future.

A typical single terminal MAEL 5000 including VDU and 64k byte central processor, 10m.

character disc memory and 120 cps bi-directional printer is priced around £13,000 for any single purchase, with considerable discount terms for the software houses and other major users needing machines of this kind in quantity. A five VDU MAEL 5000 with 96k central processor, 10m. character disc memory and 120 cps printer is priced around £28,000 for a single purchase, and carries similar bulk discount terms for multi-purchases.

More details from Computer Ancillaries, 64 High Street, Egham, Egham 6455.

electrical wire & cable?

ANIXER

Thousands of types and sizes in stock for immediate delivery
 • NO MINIMUM ORDER • NO MINIMUM LENGTH
 LONDON 01-5618118 ABERDEEN (0224) 32355/2
 TRANSFER CALL CHARGES GLADLY ACCEPTED
 24Hr EMERGENCY NUMBER 01 637 3567 Ext 409

ENERGY

Searching for power at lower cost

BECAUSE so much interest now attaches to the use of every possible means of getting heat from the environment, or not losing heat to the environment, many people are trying to work out the true economics of applying available methods of power saving.

One of these is the application of a heat pump—basically a refrigerator in reverse which uses the outside of a house as the refrigerated space and the inside as the radiator area where "unwanted" heat is dissipated—that can provide to indoors something like 2½ times the energy input to the pump mechanism.

A great deal of work has been going on in this area and a number of important announcements are expected. But there is some confusion as to what an installation is supposed to be doing.

To support central heating is one thing and domestic hot water another. The latter application, which is the one being promoted by a large British organisation which has access to major Government test services, is offering equipment which would give a nominal 11 kW steady state output, but which would be 280-litre insulated tank for, say, £760 plus VAT. Consumption of heat-in-house output of 6kW and

15kW respectively, which is enough to provide central heating and hot water for most domestic premises. Certainly in the case of the smaller unit, it is expected that total installation costs would come under the magic £1,000 mark. Possibly the larger one could, provided a somewhat smaller tank was used.

Further from the company on 043 471 3000.

Meanwhile, the solar energy lobby has not been idle. It is sufficiently aware of the real problems to call a conference on them. And most pressing among these is that of storing solar heat accumulated during the day—and in the winter—so that it can be used to advantage at night.

A one-day technical meeting is being called by the Solar Energy Society on May 5 at the Royal Institution in London to consider, specifically "Storage in Solar Energy Systems". The Society is aware that storage in the form of chemical energy, or large volumes of water held at high temperature or in large batteries is expensive and says that development of cheap and efficient energy storage is essential if the use of solar energy is to become widespread.

In that, it is somewhat at

variance with the experience of the pioneering companies in the U.K. which have analysed returns from users to determine just how much saving could be achieved over a year through the use of simple solar panels to boost domestic hot water.

Harvester Solar Systems, of Knutsford in Cheshire, is one of these. It offered a reduction of £300 per notional £900 installation to those users who were prepared to keep a day-to-day record of all their activities and their use of hot water over a period of a year—and some of the results are most interesting.

From sun power to wind power is only a step—and the wind lobby seems to be having something of a breakthrough since wind generators are to be used to provide power to essential positioning equipment when the vast Ninian Central oil production platform is towed out in April on the 400 mile voyage to a base in the North Sea.

Five 24-volt Winco windmill energy sources with outputs of 200 Watts feeding either 12 volt or 24 volt battery packs have been ordered from the Natural Energy Centre in Kingston, Surrey. Three of these will be sited along the west coast of Scotland and two in Shetland, requiring simple 12 foot steel

towers as the land bases and very little else, since the packaged electronics takes its power from the batteries, to provide the navigational fixes required to keep the valuable piece of civil engineering on course.

Few people in Britain can afford to buy a disused water mill. Many may have a stream or river not too far from their property. It is possible to derive a large amount of energy in the form of pumping power from an improvement on the Archimedeas screw developed in New Zealand and capable of providing appreciable amounts of power from a fall of only one foot provided the volume is right.

Natural Energy of Hamilton, Bermuda are the promoters with a U.K. foothold at Foxleys Farm, Maidenhead, Berks.

Claimed is a performance equivalent to 1,000 gallons per hour to a height of 10 feet and 100 gallons/hr to a height of 300 feet from equipment weighing only 100 kilos.

It is proposed that H. J. Godwin of Quenington, Glos. will make the pump and E. H. Bradley of Swindon will produce the casing from Pilkington's Cemfil.

Quantity production at 100 per week is proposed for deliveries to start in October this year.

SAFETY

Protecting the head

TOUGH, white synthetic polyester fabric hoods to cover head and shoulders have been introduced to protect workers engaged in painting, spraying, handling of powders operating in dust laden atmospheres.

Starchem Hoods have an elasticated face aperture adjustable to allow either full face exposure or cover the entire face except for the eyes and allow the use of a face mask with the hood. Comfortable to wear and sufficiently large to allow one size to meet all requirements they could be expected to give brief period of protection against accidental splashes of liquids if disposed of immediately afterwards.

More from Starchem, 27a Pendeford Airport, Wolverhampton WV9 5HA. Wolverhampton 782889.

ELECTRONICS

Accelerates freeze-dry

HEAT CONTROL units by Edwards High Vacuum improve the reliability and speed with which substances can be freeze-dried. They can cut drying time for some common products by more than half, and replace the traditional methods of determining safe drying temperatures for complex substances.

The Edwards resistivity controller, determines the lowest eutectic point of a substance (the temperature at which it completely solidifies) by monitoring its resistance, which varies with its physical state. The principle relies on the fact that there is a sudden change in resistivity at a eutectic point.

Accuracy and reliability of this method, which overcomes the difficulty of determining the exact temperature at which a substance solidifies, enables the temperature of a product to be maintained exactly at optimum during freeze drying; that is, just below the eutectic point. Thus, the maximum possible amount

of heat can safely be applied to the product and unnecessarily long drying times the result of which substances can be freeze-dried, are eliminated.

The unit is simple in operation and can be fitted to almost any industrial freeze dryer.

Two probes are inserted into the product and resistance is sensed by means of a bridge network. A relay in the controller automatically energises and de-energises the freeze dryer heaters as appropriate, when product resistance deviates from a pre-set level.

As an insurance, a temperature controller coupled in series with the instrument prevents product from over-heating when all ice has sublimated—at which point product resistance would approach infinity.

Further data from Edwards High Vacuum, Manor Royal, Crawley, West Sussex.

Fast assembly of boards

IN THE latest automatic component location workstation for printed circuit board assembly, offered by John Parfitt, the camera head projecting the component insertion positions on to the board is linked to a component dispensing carousel so that any component can be called up in any order. There is no need to follow a fixed sequence.

This means that several board assemblies can be undertaken with just one kitting of the component trays and variants of the same board can be more easily manufactured.

The new system, LS100, has an overhead projector (like a photo enlarger) which throws images under a 35mm film cassette which can accommodate 150 images. For a given board the operator uses a pedal to sequence the frames and insert the wire legs of the components as projected. As each frame comes up, a carousel to the rear containing

eight tiers of 10 bins per tier rotates and moves up and down to present the correct component.

The board is held in position by magnetic clamps, easily pushed on to a steel base to suit any size of board normally encountered.

If desired the projector can be incremented automatically for paced production, allowing the manager to indicate, by pre-coding on each frame of film, an appropriate insertion time.

Film can be exposed and coded at the same time on a machine offered by the company (blanked off sprocket holes are used for coding) or Parfitt will undertake the task from customers' artwork.

The company maintains that for an expenditure in the £1,500 region, work throughput increases of 50 to 80 per cent. are readily obtainable in comparison with manual methods.

More on 0256 54564.

Coatings made to order

OFFERED by Evaporated Thin Films, part of Kendall Hyde Associates of Farnborough (Hants) is a service for the application of single and multi-layer thin films to optical components of all kinds.

Functions offered are metallic or dielectric mirrors, beam splitters, anti-reflection, radio frequency interference shielding and various optical filters. The company is now also producing a range of matched laser coatings using electron beam high vacuum techniques, able to withstand 10 gigawatt pulsed power levels at over 99 per cent. efficiency.

Clearly, at laser levels, reduction of reflected energy is important in transmission components while in mirrors as little as possible must be absorbed. The anti-reflection coatings can be centred at any wavelength from 400 to 1,000 nm. and can be "tuned" to suit the laser frequency.

The company has also recently developed a broad-band reflecting coating suitable for dye laser systems, giving an average reflectivity of 99 per cent. over the spectrum 400 to 750 nm.

More from Solartron Road, Farnborough Industrial Estate, Hants GU14 7QL (0253 40223).

Measuring radio noise

PUT ON the market by Eddy-ston Radio (a GEC Marconi company) is a radio noise measuring equipment likely to be of interest to manufacturers of electrical and electronic equipment prone to produce such interference.

Later, it is planned to introduce a range of associated aerials and artificial mains networks: the former will allow field strength measurements to be made; the latter permit the measurement of interference that has been conducted into the mains supply.

More about the units, designated R561 and 1562, from Chislehurst 53221.

Plugboard saves time

UP TO 50 per cent. can be cut from cycle times by a plugboard-controlled automatic lathe marketed by Machine Tool Agencies.

This is possible because the machine's Tracer control system programs sequences in such a way that they do not have to start or end simultaneously. Thus, when a long forming cut is taking place externally, the turret can be used to centre drill, drill and bore the end.

Two versions of the machine are available: one with a collet and third vertical part-off slide for bar work, and a chucking version without a part-off slide.

The collet version has a 2in. bar capacity, and the chuck machine has a 7in. swing over the slide. There is a six-station turret and independent front and rear slides. All slides are hydraulically actuated, as are the collet bar mechanism and turret clamping.

Spindle speeds from 90 to 2,000 rpm are available in three ranges. Maximum slide traverse is 4 ins. and maximum turret stroke is 6 inches.

Average time reduction is 20 per cent., and up to 32 sequences can be programmed.

More from MTA, Wedgwood Industrial Estate, Rothwell Road, Warwick (0825 46361).

INSTRUMENTS

Sensitive temperature recorder

QUARTZ digital thermometers excel for differential measurements. Since quartz sensors convert temperature into frequency rather than changes in resistance or voltage, as in some other thermometers, the 2804A is relatively free from noise pickup problems. Long cables, ground loops and proximity to electrical noise sources do not affect this instrument.

Using a seven-digit readout, the unit requires no balancing and there is no need for the user to refer to voltage or resistance versus temperature tables or curves, or for external equipment such as a reference junction.

The display can be set to show measurements with a resolution of either 0.01, 0.001 or 0.0001 degree C. Readout can be switched to degrees F. by changing an internal switch.

Absolute accuracy is ± 0.040 degree from -50 to 150 degrees C., and ± 0.075 degrees from -80 to 250 degrees C.

Using a seven-digit readout, the unit requires no balancing and there is no need for the user to refer to voltage or resistance versus temperature tables or curves, or for external equipment such as a reference junction.

More from Hawks Road, Galeshead, Tyne and Wear. (0632 783838.)

METALWORKING

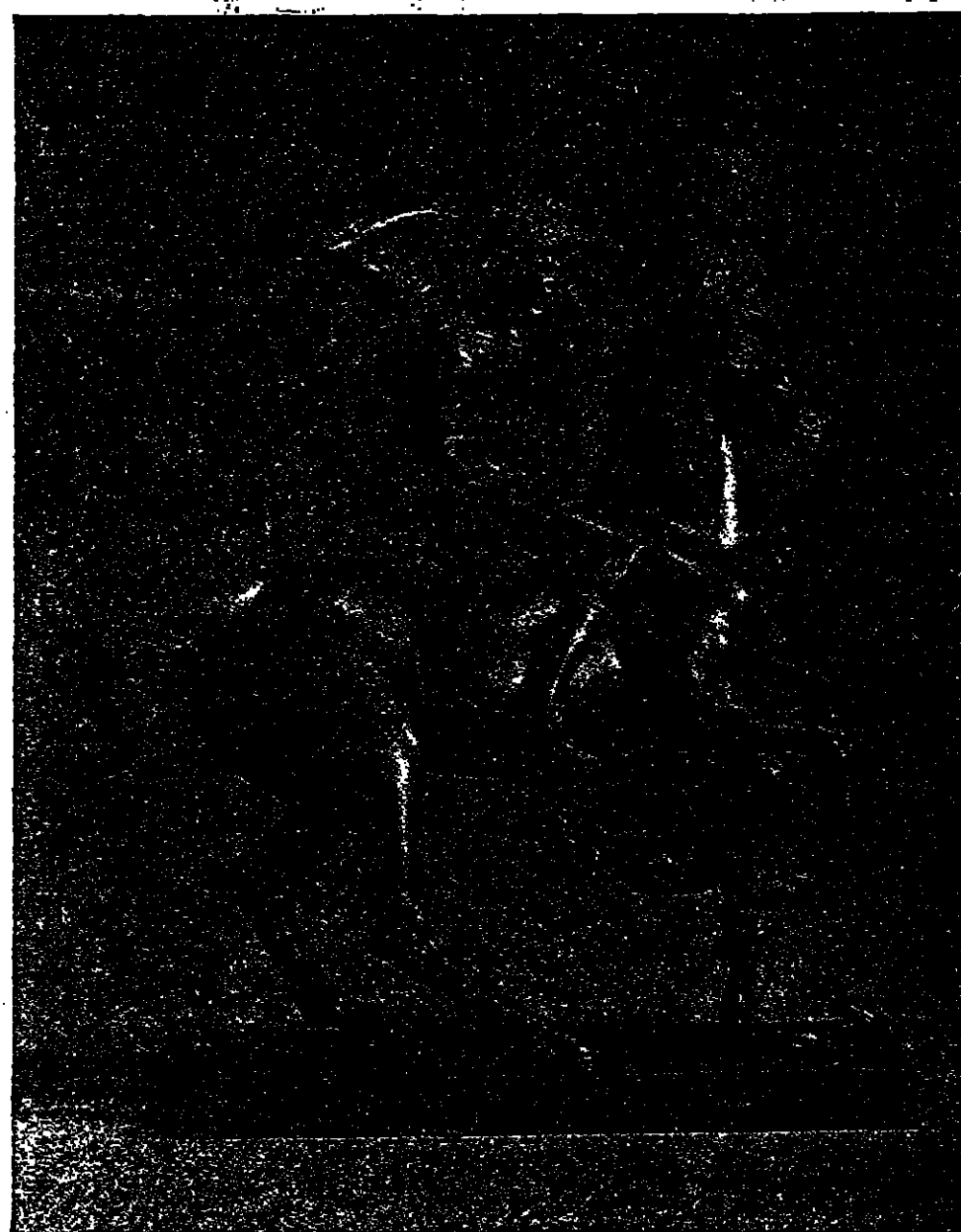
Simple control for grinders

DESIGNED by Lumsden Machine Company for its multi-pass block which lies in the descending path of the grinding head, grinders is an abrading contact device which will ensure that the unit is mounted on a rigid depth of cut is controlled consistently and automatically to fixed tolerances down to 0.001 in (0.025 mm).

Essence of the device is a pair of copper-clad laminate strips, one positioned 0.005 in (0.13 mm) higher than the other, mounted on the convex surface of a rigid block which lies in the descending path of the grinding head.

The unit is mounted on a rigid stainless steel pillar which is fixed to the edge of the grinding table and can be precisely adjusted for height with the aid of sliding clamps and a height gauge.

As soon as the grinding effect on the curved surface of the first



MARCH ISSUE

The March issue features two major articles on the Erwin Untermyer collection in the Metropolitan Museum; one covers 18th century English furniture and the other discusses Renaissance sculpture. The theme of sculpture continues with articles on Italian sculpture, a new portrait of Rupert of the Rhine by Dioussart (compared with Bernini's bust of Charles I) and the oeuvre of Thomas Woolner, a pre-Raphaelite sculptor.

Another article covers drawings for the Royal Pavilion in Brighton and there is a very important article on the development of taste in AFRICAN ART.

ON SALE NOW

SINGLE COPY £2.00 OR £2.50
 (postage included) DIRECT FROM
 THE PUBLISHERS

Annual subscription: U.K. £25.00, Overseas £28.00, U.S.A. \$56.00 from: Apollo, Bracken House, 10, Cannon Street, London EC4A 4BY. Telephone 01-248 8009.

Please enter a subscription for one year (12 monthly issues) to Apollo Magazine commencing with the issue.

Name _____
 Address _____

Signed _____

APOLLO
 A division of the Financial Times Limited, Registered in London. Number 227580 Registered Office: Bracken House, Cannon Street, London EC4A 4BY.

'Reversing the engines of exodus'

"THE ENGINES of exodus have legislation, give local authorities been reversed." That phrase, the power to provide financial alluding to the policies of a and other aid to industry, par- generation aimed at dispersing ticularly but not exclusively in jobs and people away from the inner cities. Success in over-crowded and decaying helping industry in areas such urban areas, is a favourite of as Lambeth or Liverpool could Mr. Peter Shore's since he took eventually have a far greater on the job of Environment significance in the long term for Secretary two years ago.

During that time he has Doncaster. Success in one area effectively put the brakes on the will, it is argued, lead to highly successful Location of greater local authority involve- Offices Bureau in reiting com- ment throughout the country. panies away from London and virtually sounded the death- knell to future expansion of the New Towns.

Yet his strategy has not just as traditional Labour strong- been a negative one. In place holds and it is the sheer scale of the "engines of exodus" Mr. of the crisis facing the cities in Shore has attempted a double the 1970s that has concerned policy. In the immediate future Mr. Shore. He is, incidentally, he is setting great store by the first Environment Secretary Government's Inner Urban for 20 years to represent an Areas Bill, which has just com- inner London constituency fac- pleted its committee stage in the problems of decline the Commons, to provide a (Tower Hamlets, Stepney and regeneration of the inner cities. Poplar).

In the longer term, however, Mr. Shore is hoping that his stay at the Department's offices in Marsham Street, West- minster, will mark the begin- ning of a new attitude among civil servants and local auth- orities towards helping indus- try. He believes that the immense power of local gov- ernment — the largest organisa- tion in the country — must be harnessed to help overcome the problems of the businessman at a local level.

Wholehearted

Local authorities, he argues, have a vital part to play in the Government's industrial strategy. But first they must overcome their traditional reluctance to involve themselves in industrial matters as whole- heartedly as they are respon- sible for schools, roads, and social services. Local author- ities, however, and even some of Mr. Shore's civil servants at the Department of Environment, still have to be convinced that such radical involvement in industry is the right path to follow.

Hence the importance of the Inner Urban Areas Bill. Mr. Shore sees this legislation as the catalyst to spark off a change in attitudes within the and 15 local authorities also town halls. The Bill will, for the first time through general



Decay in the cities: part of Liverpool (left) and London's Dockland with Mr. Peter Shore, Environment Secretary, superimposed in the foreground.



three-year programme for action to start in the 1979-80 financial year. The existing authorities with urban problems urban programme's allocation can still receive help. In 1978/79 some £10m. has been allocated for helping these authorities. The second plank in the policy for the inner cities is the powers being made available in the Inner Urban Areas Bill. Although section 137 of the 1972 Local Government Act and extra investment in capital pro- jects announced last year by the Chancellor as a boost for the construction industry, the current partnership areas in Lon- don, Birmingham, Islington and Hackney will in future take precedence over the Assisted Areas when Industrial Develop- ment Certificate bids for new projects are allocated. Although the new urban pro-

gramme is concentrated on 22 other local authorities in need able to give grants towards rents to help companies taking on leases not owned by the local authority. And interest free loans for up to two years will be available for bringing inner city sites back into use. Mr. Shore accepts that "few large-scale employment projects will be attracted to inner cities by the exercise of the Bill's powers." Instead, he is pinning his hopes on the medium and small sized companies being lured back to the inner cities. Critics of the Bill, including Mr. Michael Heseltine, the Con- servative Opposition spokesman on the environment, argue that it will have little practical effect. "Its impact on all except a negligible number of companies will be nil," says Mr. Heseltine. Yet Mr. Shore remains con-

vinced that the Bill will be effective when considered in conjunction with the "main thrust of government assistance for housing, education, roads, and so on."

But it is also in the Bill's wider context—acting as a catalyst in changing local authority attitudes towards local industry—that Mr. Shore is looking for success. He believes that in the past local authorities have been less alert to the problems of the businessman and have given a much lower priority to the needs of industry and employment in their areas.

Circular

Formal advice to local author- ities on how to help industry has been given by the Government in a recent circular. But Mr. Shore is well aware that such advice is easy to give; the im- portance is how local authorities respond.

The circular argues that in- dustrial success depends greatly on confidence, stability, and the facility to adapt production to changing demand. "Local authorities can do a great deal to create the right atmosphere for growth by showing an awareness and understanding of the needs of industry and a willingness to help," it says. "Keeping in- dustrialists informed of develop- ing policies and providing them with opportunities for feeding in their own views is obviously important. Many authorities have already recognised the advantages for them and for industry of having effective and regular means of communication at both member and officer levels."

Moreover, it reminds local authorities of the importance to industrial companies of a quick and constructive response to in- quiries and suggests a named official or coordinating unit who would be easily accessible for industrial matters. "Such a focal point should be respon- sible for providing a link with local employers; acting as a readily available source of in- formation; co-ordinating the authority's own information on the local industrial position with Governments departments and other bodies; guiding industry through local authority pro- cedures; explaining exactly what help the authority can or

cannot provide; and suggesting alternative sources of assis- tance."

Specifically, local authori- ties are asked to give priority industry for planning reques and to consider propos- schemes "flexibly." The Depa- ment of Environment h recently speeded up its part the planning process. Lo- authorities are also asked release land for industr development where possible to give priority to hous employees of companies mov into the area.

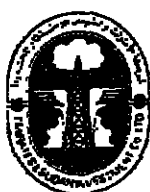
Yet Mr. Shore's approach been heavily criticised. So of the most pungent comm- have come from the Lab Party itself. "The objective creating confidence for inv- ment are unrealistic w industry in general is alre running at 80 per cent, or than full capacity through of demand," argues a Lab Party document. And it p- out that "it is crucial that n is offered to local author than advice alone."

But for Mr. Shore, prob the biggest question mark the strategy is how much he change attitudes both w his own department and an local authorities before eventually leaves Environn either for another Cabinet or the Opposition benches. policies for both the i cities and for greater inv- ment by local government industry have owed a great to his personal interest energy. Whether they survive his departure ren to be seen.

Eventually, however, talism may provide at some of the answers. A nu- of local authorities are for their own partnerships local companies in an to provide jobs. For exam- private company, Westmi Bunting, has been encou- to create an industrial o for small factories on the vacated by AEL in Woolvi And the Greater Lo- Council is currently r- private consultants, Be Wilcox, to create a "force" between the private public sectors able to con- the private sector's fair ability to decide and act qu with the social responsi- and accountability of p bodies.

CONTRACTS AND TENDERS

CALL FOR TENDER



EMIRATES & SUDAN INVESTMENT CO. LTD.

TENDER FOR THE CONSTRUCTION OF 200 WAREHOUSES (RED SEA REGION)

PHASE ONE: 34 WAREHOUSES AT PORT SUDAN

- The Chairman of the Board of Directors, Emirates & Sudan Investment Co. Ltd., invites Tenders from competent contractors for the construction of 34 "Thirty four" Warehouses complete at Port Sudan (D.R. of Sudan) as phase one from the total number above.
- The Tender Documents "in English only" can be obtained from the office of the Managing Director of the Emirates & Sudan Investment Co. Ltd., 16 Babiker Bedri St., P.O. Box 7036, Khartoum. Telex 524 EMSU KM. Telegraphic Address: EMSU Khartoum, during office hours against payment of L.S.100 (one hundred Sudanese pounds = £145 US\$290) non-refundable.
- Tenders will be accepted for 4 warehouses as a unit and Tenderers should deposit a sum of L.S.4000 (Four Thousand Sudanese pounds) or its equivalent in other convertible currencies either by certified cheque or a letter of guarantee from a reputable bank valid for at least three months after the closing date as a preliminary deposit in the name of the Managing Director, Emirates & Sudan Investment Co. Ltd., for each unit. Tenderers for more than one unit should multiply their deposit accordingly. Separate offers per unit for lighting and fire systems may be added as option.
- The successful Tenderer/Tenderers shall be asked to sign formal contract within two weeks after being notified of the acceptance in writing and to complete the deposit to 10% (ten per cent) of the total value of the contract either by a certified cheque or a letter of guarantee from a reputable bank valid for one year after handing over all works. Other forms of guarantee may be required for longer period. Any other plans for payment that may lead to the reduction of the cost could be proposed by the tenderers. If the contractor fails to sign the contract within the specified time, he shall lose his right to recover the preliminary deposit.
- The preliminary deposit shall be refunded to the unsuccessful tenderers two weeks after the firm award of the contract.
- Tenderers shall state clearly the following:—
 - The names, qualifications, and experience of engineers and technicians who

- will be responsible for the execution of the works.
- Examples of similar projects they have executed.
- A detailed programme specifying the progress of the works and the time required for the completion of all works specified in the tender and shown in the drawings, as from the date of the signature of the contract.
- A list of equipment and machinery in their possession necessary for execution of the works.
- The supply of all materials, equipment and machinery whether local or imported necessary for the execution of all works is solely the responsibility of the Contractor.
- Tenders shall be valid for at least three months after the closing date mentioned in para (12) below. The offer may be based on the detailed alternative or for an accepted alternative to be presented in detail to the Managing Director.
- All information relevant to the tender shall be submitted in English Language.
- For imported items, The Emirates & Sudan Investment Co. Ltd. will directly pay all insurance, clearance, customs and other Port charges.
- Foreign Currency will be paid directly from The Emirates & Sudan Investment Co. Ltd. reserves with The National Bank Abu Dhabi.
- Tenders should bear the prescribed stamp duty and should be addressed in sealed envelopes bearing the words (TENDER FOR THE CONSTRUCTION OF WAREHOUSES AT PORT SUDAN), to The Managing Director, Emirates & Sudan Investment Co. Ltd. and should be delivered to the Tenders Box at the Company's Head Office, 16 Babiker Bedri St., 3rd Floor, Khartoum, Sudan, not later than 12.00 Noon Sudan Time Tuesday the 20th of June 1978.
- Any tender which does not comply with any of the above-mentioned requirements will be rejected.
- The Chairman of the Board of Directors, Emirates & Sudan Investment Co. Ltd., is not bound to accept the lowest or any other tender.

A FINANCIAL TIMES SURVEY

WORLD BANKING

PART I MAY 22, PART II MAY 30 1978

The Financial Times annual Survey on World Banking will be published in two parts—Part I on Monday May 22 and Part II on Tuesday May 30. The proposed editorial content is set out below.

INTRODUCTION Part I The world economic and financial scene. World-wide recovery from recession remains sluggish, despite growth in the U.S.

INTERNATIONAL MONETARY ARRANGEMENTS The International Monetary Fund calls for more rapid economic expansion; the role of the Fund and central bank arrangements in providing support for countries with balance of payments problems.

OIL FUNDS Outlook for the oil price against the background of the decline in the dollar; impact of the growing import demand of the oil-producing countries.

INTERNATIONAL BANKING Further growth in international activities against the back- ground of generally depressed home demand in the industrialised economies.

INTEREST RATES Sharp declines in many European countries, particularly Britain, reflecting in part the weakness of the dollar. **GOLD** The market price has risen sharply to its highest levels for nearly three years as demand has revived.

EUROPEAN INTEGRATION The idea of monetary union has been revived by Mr. Roy Jenkins.

BANKING REGULATIONS Important steps have been taken within the European Community towards the harmonisation of banking controls; new legislation expected in the U.K. **THE CITY OF LONDON** The City has held on to its position as a leading international banking centre, but there are signs of increasing competition from other centres.

FOREIGN BANKS IN LONDON The international banking community continues to find the City attractive as a centre for offshore operations.

MULTINATIONAL BANKING Considerable changes have taken place in the consortium banking business.

EXPORT FINANCE Important moves in Britain to reduce reliance on sterling and continued international concern over the issue of competition in export finance. The remaining articles will review economic and industrial developments in the countries listed, with particular reference to the banking and financial sectors:

FRANCE
WEST GERMANY
ITALY
NETHERLANDS
BELGIUM/LUXEMBOURG
DENMARK
IRELAND
SWITZERLAND
AUSTRIA
NORWAY/SWEDEN

SPAIN
PORTUGAL
AUSTRALIA
NEW ZEALAND
CANADA
SINGAPORE
HONG KONG
FINLAND
TURKEY

THE POUND Part II The sharp revival of confidence in sterling, coupled with the weakness of the dollar, has presented problems for the U.K. Government.

THE DOLLAR Sustained pressure on the U.S. currency against the background of the growing U.S. balance of payments deficit.

EUROMARKETS Further expansion of activity in both the medium-term credit market and Eurobond issues.

PROJECT FINANCE Development of inter- national banking to meet the needs of large- scale project finance.

NON-OPEC DEVELOPING COUNTRIES Reliance on a recovery of commodity prices as the industrialised countries expand; balance of payments problems and concern over possible defaults on their debts.

DEVELOPMENT FINANCE The role played by private banks and the official agencies in overcoming the difficulties of the less developed countries.

NEW CENTRES Growing competition felt by the established financial centres from new markets and offshore banking centres. Economic, financial and industrial developments in the following countries:

U.S. (home)
U.S. (abroad)
JAPAN (home)
JAPAN (abroad)
COMECON
YUGOSLAVIA
ISRAEL
GREECE
ARAB WORLD I
ARAB WORLD II

SOUTHERN AFRICA
BLACK AFRICA
IRAN
THE CARIBBEAN
INDIA
PAKISTAN
SRI LANKA
LATIN AMERICA
CHINA
SOUTH KOREA

For further details on the editorial content and advertising rates contact: Adrian Secker (European Dept.) or Michael Pridoux (Financial Dept.) or Helen Lees (Overseas Dept.) Financial Times, Bracken House, 10 Cannon Street, London EC4P 4BT. Tel: 01-248 8000.

FINANCIAL TIMES
EUROPE'S BUSINESS NEWSPAPER

The content and publication dates of Surveys in the Financial Times are subject to change at the discretion of the Editor.

We deliver



A range of International services no other bank can offer.

International Finance. Competitively.

Short-term and fixed rate medium-term finance covered by ECGD guarantees.
Negotiating or discounting bills, Acceptance credits, Eurocurrency finance, Export factoring.
International leasing and Instalment finance.

International Branch Network. Competitively.

Being the exclusive U.K. member of European Banks International (EBIC) Midland can offer their clients the complete facilities of seven major independent European banks with 10,000 branches throughout Europe and a world-wide network of joint ventures.

International Transfers. Competitively.

Foreign exchange, spot and forward contracts.
Clean payments, mail transfers, telegraphic transfers, drafts.
Bills for collection, documentary credits.

International Corporate Travel. Competitively.

Exclusive to Midland, direct access to the world's largest travel company—Thomas Cook—a member of the Midland Bank Group.

The fastest growing company in business travel providing the most comprehensive business travel service including foreign exchange in 150 currencies, travellers cheques, V.I.P. Service cards and 870 offices in 145 countries.

Competitively.

International Merchant Banking. Competitively.

A complete range of international financial services from Samuel Montagu, a major Merchant Bank and a member of the Midland Bank Group.

Eurocurrency credits, bond issues, corporate and investment services.

Samuel Montagu are also major market makers in bullion, foreign exchange and Eurobonds.

International Insurance. Competitively.

Every aspect of insurance and reinsurance.

International Marketing Services. Competitively.

A unique range of marketing and export finance services through the London American International Corporation Limited, operating in over 100 countries.

Information on regulations, tariffs, documentation procedures and exchange control.

To ensure your company makes the most of its international opportunities, you really should talk with us

For a prompt answer, contact George Bryen, tel: London 606 9944. Ext 4057. Telex 888401 or contact any of our branches throughout the U.K

TEST US.

Midland Bank International Delivers.

Midland Bank Limited, International Division, 60 Gracechurch Street, London EC3P 3BN. Tel: 01-606 9944.



APPOINTMENTS

Group
Finance Director

• A NEW appointment in a publicly quoted Group of companies engaged in the United Kingdom and overseas in construction and related industries.

• RESPONSIBILITY is for the financial direction of the group and includes the installation of forecasting and budgeting systems. A broadening of management responsibility is envisaged in the short term.

• POST qualification experience must demonstrate a record of successful financial management, preferably in a similar field.

• AGE: 40s. Location South London. Earnings to £15,000.

Write in complete confidence
to N. C. Humphreys as adviser to the group.

TYZACK & PARTNERS LTD
10 HALLAM STREET LONDON W1N 6DJ
12 CHARLOTTE SQUARE EDINBURGH EH2 4DN

Finance Director
FAR EAST

for the main board of a highly successful international company with a very large turnover derived from many sources.

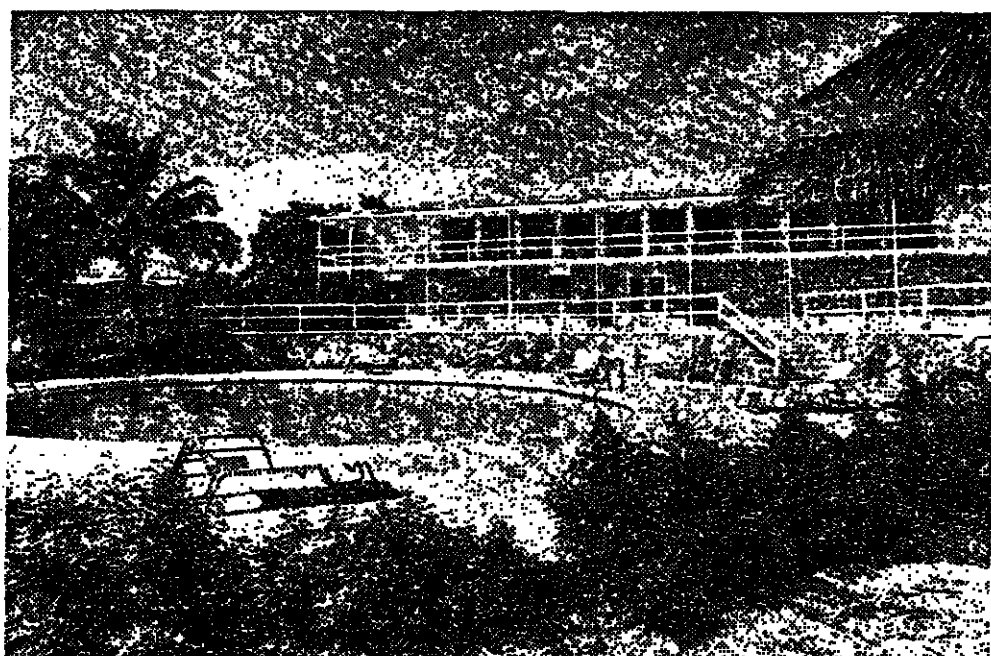
• SUCCESS in a main board appointment in a major international company is the prime requirement. Evidence of business achievement should include the appraisal and negotiation of acquisitions.

• TERMS are for discussion. Remuneration is unlikely to be less than the equivalent of £45,000 together with exceptionally generous fringe benefits.

Write in complete confidence
to K. R. C. Slater as adviser to the company.

TYZACK & PARTNERS LTD
10 HALLAM STREET LONDON W1N 6DJ
12 CHARLOTTE SQUARE EDINBURGH EH2 4DN

HOTELS AND LICENCED PREMISES

Hotel for Sale or Lease!
AT WHALE POINT, NORTH ELEUTHERA

The site is approximately eight acres for Club development, plus two acres for recreation and over four hundred feet of beautiful sandy beach. There is an unparalleled view from all 360 degrees, either of the blue Atlantic, the cliffs, Harbour Island or emerald-green Port Harbour.

Forty Hotel Rooms in two-storey buildings, plus magnificent Club House. All rooms are individually air-conditioned. Rooms are very spacious, 18' x 13' 8", plus dressing room and complete bathrooms. All rooms are completely and attractively furnished.

FOR MORE INFORMATION

Tel.: (809) 323-5555
Write: P.O. Box N-756, Nassau, Bahamas

KENT - CANTERBURY

Dover 16 miles. London 56 miles.

A FULLY MODERNISED HOTEL

with potential for expansion on large site in

excellent position, with access from A2.

19 Bedrooms, 9 Bathrooms, 2 Shower rooms, 2 Lounges, TV room, Dining room, Breakfast room, Modern Kitchen and 2 Utility rooms, Car Park, Fire Certificate, Central Heating, Detached Owners' Cottage with swimming pool.

Planning Permission for use as Nursing Home and for Residential Redevelopment.

ABOUT 11 ACRES

Offers invited

Strutt & Parker

London Office: 27, St. Margaret's Street, Tel: 01-462 3112

FOR SALE 16th century Freehouse, situated in Suffolk Village, Part detached and state roof, Restaurant, kitchen, cellar, large bar, Accom. 1st floor, Garage, large garden, Hard tennis court, Tel. Holland Lane, Essex, SS07 633, Bacton 234, Bacton 3456.

CLUBS

EVE, 188 Regent Street, 734 0557. A la Carte or All-in Menu, Three Spectacular floor shows 10.45, 12.45 and 1.45 and music to John Hawkesworth & Friends.

GARGOYLE, 60 Dean Street, London, W.1. NEW STRIPTEASE FLOORSHOW THE GREAT BRITISH STRIP Show at Midnight and 1 A.M. Mon-Fri. Closed Saturdays. 01-437 5455.

PERSONNEL
MANAGER

£6,500 +

Major Clearing Bank requires a Personnel Manager for its Computer Centre. Applicants should be aged between 35 and 45 and have some experience in personnel work, preferably in the computer industry. Minimum salary £6,500 (plus supplements) together with the usual fringe benefits associated with the banking industry. Applications together with full c.v. to: Box A6305, Financial Times 10 Cannon Street, EC4P 4BT

COMMODITY APPOINTMENTS LTD.
Futures, Options, in Coffee, Cocoa, Coffee, Sugar, Metals, Oil, Also Foreign Exchange, and other commodities.
Europe, U.S.A., and Hong Kong. Tel: 01-435 1701.

PERSONAL

URGENT

THE MURIE CURRIE MEMORIAL FOUNDATION is profoundly grateful to those who have contributed to the date made interest free loans enabling us to commission our two new houses. However, more loans, of the relief of human suffering, are urgently needed. The Foundation is a charitable organisation, and any contribution, no matter how small, will be gratefully received. Contributions should be sent to: The Murie Currie Memorial Foundation, 124, Sloane Street, London SW1 9EP. Tel: 01-750 9158. IN DEED IT IS

ART GALLERIES

LUMLEY CAZALET, 26, Dorset St., W.1. 459 5058. TISSOT - Forty etables, dev. 1977-1978. 235, 91-92, W.1. 459 5058. MASS VICTORIAN FAIRY PAINTINGS. 10-11, St. Paul's Church, W.1. 459 5058. FIELDS GALLERIES, 65, Queens- 1969-1976. A Camden Town 1969-1976. AGNEW GALLERIES, 41, Old Bond St., W.1. 459 5058. THREE CENTURIES OF BRITISH PAINTING. 10-11, St. Paul's Church, W.1. 459 5058. FOX GALLERY, Exhibition of the artist 1970-1975. 10-11, St. Paul's Church, W.1. 459 5058. GILBERT PARR GALLERY, 295, Kings- 1969-1976. 10-11, St. Paul's Church, W.1. 459 5058. 10-11, St. Paul's Church, W.1. 459 5058.

COMPANY NOTICES

UNION CORPORATION LIMITED

(Incorporated in the Republic of South Africa)

NOTICE OF ANNUAL GENERAL MEETING

Notice is hereby given that the annual general meeting of members of Union Corporation Limited will be held in the Board Room of the Corporation Buildings, 74-75 Marshall Street, Johannesburg, on Wednesday 26th April 1978, at 11.00 a.m. for the following business:

- 1) To elect directors in accordance with the Corporation's articles of association.
- 2) To consider and approve the accounts and financial statements for the year ended 31st December 1977.
- 3) To consider and approve the directors' report and the auditors' report.
- 4) To consider and approve the remuneration of the directors.
- 5) To consider and approve the remuneration of the auditors.
- 6) To consider and approve the directors' recommendation regarding the proposed dividend for the year ended 31st December 1977.
- 7) To consider and approve the directors' recommendation regarding the proposed bonus for the year ended 31st December 1977.
- 8) To consider and approve the directors' recommendation regarding the proposed share repurchase programme for the year ended 31st December 1977.
- 9) To consider and approve the directors' recommendation regarding the proposed share repurchase programme for the year ended 31st December 1977.
- 10) To consider and approve the directors' recommendation regarding the proposed share repurchase programme for the year ended 31st December 1977.

By Order of the Board,
P. HURST, Secretary.

NOTICE OF GENERAL MEETING

A general meeting of members of Union Corporation Limited will be held in the Board Room of the Corporation Buildings, 74-75 Marshall Street, Johannesburg, on Wednesday 26th April 1978, at 11.00 a.m. for the following business:

- 1) To consider and approve the accounts and financial statements for the year ended 31st December 1977.
- 2) To consider and approve the directors' report and the auditors' report.
- 3) To consider and approve the remuneration of the directors.
- 4) To consider and approve the remuneration of the auditors.
- 5) To consider and approve the directors' recommendation regarding the proposed dividend for the year ended 31st December 1977.
- 6) To consider and approve the directors' recommendation regarding the proposed bonus for the year ended 31st December 1977.
- 7) To consider and approve the directors' recommendation regarding the proposed share repurchase programme for the year ended 31st December 1977.
- 8) To consider and approve the directors' recommendation regarding the proposed share repurchase programme for the year ended 31st December 1977.
- 9) To consider and approve the directors' recommendation regarding the proposed share repurchase programme for the year ended 31st December 1977.
- 10) To consider and approve the directors' recommendation regarding the proposed share repurchase programme for the year ended 31st December 1977.

By Order of the Board,
P. HURST, Secretary.

REASONS FOR AND EFFECT OF THE SPECIAL RESOLUTIONS

Article 83. Paragraph 10 of the present articles specifically excludes the amounts attributable to outside shareholders in subsidiaries from being taken into account in determining the Corporation's aggregate assets. This limitation could have an inhibiting effect on the borrowing powers of the Corporation. The directors accordingly propose that the articles be amended to remove this limitation and to allow the Corporation to borrow on the basis of its consolidated balance sheet. The effect of the proposed amendment is to increase the Corporation's borrowing powers from R2,500,000 to R5,000,000. The proposed amendment is to be introduced as a result of the South African Companies Act, 1977.

Article 86. The present articles provide that a resolution in writing signed by all the directors who are at the time the president or president pro tem, or by a majority of the directors, is as valid as if it had been passed at a general meeting of the Corporation. The directors propose that the articles be amended to provide that a resolution in writing signed by a majority of the directors is as valid as if it had been passed at a general meeting of the Corporation. The effect of the proposed amendment is to increase the Corporation's borrowing powers from R2,500,000 to R5,000,000. The proposed amendment is to be introduced as a result of the South African Companies Act, 1977.

By Order of the Board,
P. HURST, Secretary.

Union Corporation Buildings,
74-75 Marshall Street,
Johannesburg 2001.
30th March 1978.

Copies of the full report and accounts can be obtained from:
London Secretaries,
Princes House,
95 Gresham Street,
London EC2V 7BS.
Credit Suisse,
Bankstrasse,
8001 Zurich.
Swiss Corporation,
1 Amsterdamsedijk,
4002 Biele.

THE COPENHAGEN COUNTY AUTHORITY (C.C.A.)

6% 1968/1980 UA 10,000,000

On March 20, 1977, bonds for the sum of UA 1,223,000 have been drawn for redemption in the presence of a Notary Public.

The Bonds will be reimbursed coupon no. 11 and following attached on and after May 1st, 1978.

The drawn debentures are those NOT YET PREVIOUSLY REDEEMED. Included in the range beginning at:

Amount subject to redemption: UA 1,300,000.
Amount bought in the market: UA 77,000.
Amount unredeemed: UA 1,223,000.

Outstanding drawn Bonds:

10 and 11: 50 to 82 incl. 5382 and 5383 5391 to 5394 incl. 5447 and 5448 5449 to 5452 incl. 5453 and 5454 5455 to 5458 incl. 5459 and 5462 5463 to 5466 incl. 5467 and 5470 5471 to 5474 incl. 5475 and 5478 5479 to 5482 incl. 5483 and 5486 5487 to 5490 incl. 5491 and 5494 5495 to 5498 incl. 5499 and 5502 5503 to 5506 incl. 5507 and 5510 5511 to 5514 incl. 5515 and 5518 5519 to 5522 incl. 5523 and 5526 5527 to 5530 incl. 5531 and 5534 5535 to 5538 incl. 5539 and 5542 5543 to 5546 incl. 5547 and 5550 5551 to 5554 incl. 5555 and 5558 5559 to 5562 incl. 5563 and 5566 5567 to 5570 incl. 5571 and 5574 5575 to 5578 incl. 5579 and 5582 5583 to 5586 incl. 5587 and 5590 5591 to 5594 incl. 5595 and 5598 5599 to 5602 incl. 5603 and 5606 5607 to 5610 incl. 5611 and 5614 5615 to 5618 incl. 5619 and 5622 5623 to 5626 incl. 5627 and 5630 5631 to 5634 incl. 5635 and 5638 5639 to 5642 incl. 5643 and 5646 5647 to 5650 incl. 5651 and 5654 5655 to 5658 incl. 5659 and 5662 5663 to 5666 incl. 5667 and 5670 5671 to 5674 incl. 5675 and 5678 5679 to 5682 incl. 5683 and 5686 5687 to 5690 incl. 5691 and 5694 5695 to 5698 incl. 5699 and 5702 5703 to 5706 incl. 5707 and 5710 5711 to 5714 incl. 5715 and 5718 5719 to 5722 incl. 5723 and 5726 5727 to 5730 incl. 5731 and 5734 5735 to 5738 incl. 5739 and 5742 5743 to 5746 incl. 5747 and 5750 5751 to 5754 incl. 5755 and 5758 5759 to 5762 incl. 5763 and 5766 5767 to 5770 incl. 5771 and 5774 5775 to 5778 incl. 5779 and 5782 5783 to 5786 incl. 5787 and 5790 5791 to 5794 incl. 5795 and 5798 5799 to 5802 incl. 5803 and 5806 5807 to 5810 incl. 5811 and 5814 5815 to 5818 incl. 5819 and 5822 5823 to 5826 incl. 5827 and 5830 5831 to 5834 incl. 5835 and 5838 5839 to 5842 incl. 5843 and 5846 5847 to 5850 incl. 5851 and 5854 5855 to 5858 incl. 5859 and 5862 5863 to 5866 incl. 5867 and 5870 5871 to 5874 incl. 5875 and 5878 5879 to 5882 incl. 5883 and 5886 5887 to 5890 incl. 5891 and 5894 5895 to 5898 incl. 5899 and 5902 5903 to 5906 incl. 5907 and 5910 5911 to 5914 incl. 5915 and 5918 5919 to 5922 incl. 5923 and 5926 5927 to 5930 incl. 5931 and 5934 5935 to 5938 incl. 5939 and 5942 5943 to 5946 incl. 5947 and 5950 5951 to 5954 incl. 5955 and 5958 5959 to 5962 incl. 5963 and 5966 5967 to 5970 incl. 5971 and 5974 5975 to 5978 incl. 5979 and 5982 5983 to 5986 incl. 5987 and 5990 5991 to 5994 incl. 5995 and 5998 5999 to 6002 incl. 6003 and 6006 6007 to 6010 incl. 6011 and 6014 6015 to 6018 incl. 6019 and 6022 6023 to 6026 incl. 6027 and 6030 6031 to 6034 incl. 6035 and 6038 6039 to 6042 incl. 6043 and 6046 6047 to 6050 incl. 6051 and 6054 6055 to 6058 incl. 6059 and 6062 6063 to 6066 incl. 6067 and 6070 6071 to 6074 incl. 6075 and 6078 6079 to 6082 incl. 6083 and 6086 6087 to 6090 incl. 6091 and 6094 6095 to 6098 incl. 6099 and 6102 6103 to 6106 incl. 6107 and 6110 6111 to 6114 incl. 6115 and 6118 6119 to 6122 incl. 6123 and 6126 6127 to 6130 incl. 6131 and 6134 6135 to 6138 incl. 6139 and 6142 6143 to 6146 incl. 6147 and 6150 6151 to 6154 incl. 6155 and 6158 6159 to 6162 incl. 6163 and 6166 6167 to 6170 incl. 6171 and 6174 6175 to 6178 incl. 6179 and 6182 6183 to 6186 incl. 6187 and 6190 6191 to 6194 incl. 6195 and 6198 6199 to 6202 incl. 6203 and 6206 6207 to 6210 incl. 6211 and 6214 6215 to 6218 incl. 6219 and 6222 6223 to 6226 incl. 6227 and 6230 6231 to 6234 incl. 6235 and 6238 6239 to 6242 incl. 6243 and 6246 6247 to 6250 incl. 6251 and 6254 6255 to 6258 incl. 6259 and 6262 6263 to 6266 incl. 6267 and 6270 6271 to 6274 incl. 6275 and 6278 6279 to 6282 incl. 6283 and 6286 6287 to 6290 incl. 6291 and 6294 6295 to 6298 incl. 6299 and 6302 6303 to 6306 incl. 6307 and 6310 6311 to 6314 incl. 6315 and 6318 6319 to 6322 incl. 6323 and 6326 6327 to 6330 incl. 6331 and 6334 6335 to 6338 incl. 6339 and 6342 6343 to 6346 incl. 6347 and 6350 6351 to 6354 incl. 6355 and 6358 6359 to 6362 incl. 6363 and 6366 6367 to 6370 incl. 6371 and 6374 6375 to 6378 incl. 6379 and 6382 6383 to 6386 incl. 6387 and 6390 6391 to 6394 incl. 6395 and 6398 6399 to 6402 incl. 6403 and 6406 6407 to 6410 incl. 6411 and 6414 6415 to 6418 incl. 6419 and 6422 6423 to 6426 incl. 6427 and 6430 6431 to 6434 incl. 6435 and 6438 6439 to 6442 incl. 6443 and 6446 6447 to 6450 incl. 6451 and 6454 6455 to 6458 incl. 6459 and 6462 6463 to 6466 incl. 6467 and 6470 6471 to 6474 incl. 6475 and 6478 6479 to 6482 incl. 6483 and 6486 6487 to 6490 incl. 6491 and 6494 6495 to 6498 incl. 6499 and 6502 6503 to 6506 incl. 6507 and 6510 6511 to 6514 incl. 6515 and 6518 6519 to 6522 incl. 6523 and 6526 6527 to 6530 incl. 6531 and 6534 6535 to 6538 incl. 6539 and 6542 6543 to 6546 incl. 6547 and 6550 6551 to 6554 incl. 6555 and 6558 6559 to 6562 incl. 6563 and 6566 6567 to 6570 incl. 6571 and 6574 6575 to 6578 incl. 6579 and 6582 6583 to 6586 incl. 6587 and 6590 6591 to 6594 incl. 6595 and 6598 6599 to 6602 incl. 6603 and 6606 6607 to 6610 incl. 6611 and 6614 6615 to 6618 incl. 6619 and 6622 6623 to 6626 incl. 6627 and 6630 6631 to 6634 incl. 6635 and 6638 6639 to 6642 incl. 6643 and 6646 6647 to 6650 incl. 6651 and 6654 6655 to 6658 incl. 6659 and 6662 6663 to 6666 incl. 6667 and 6670 6671 to 6674 incl. 6675 and 6678 6679 to 6682 incl. 6683 and 6686 6687 to 6690 incl. 6691 and 6694 6695 to 6698 incl. 6699 and 6702 6703 to 6706 incl. 6707 and 6710 6711 to 6714 incl. 6715 and 6718 6719 to 6722 incl. 6723 and 6726 6727 to 6730 incl. 6731 and 6734 6735 to 6738 incl. 6739 and 6742 6743 to 6746 incl. 6747 and 6750 6751 to 6754 incl. 6755 and 6758 6759 to 6762 incl. 6763 and 6766 6767 to 6770 incl. 6771 and 6774 6775 to 6778 incl. 6779 and 6782 6783 to 6786 incl. 6787 and 6790 6791 to 6794 incl. 6795 and 6798 6799 to 6802 incl. 6803 and 6806 6807 to 6810 incl. 6811 and 6814 6815 to 6818 incl. 6819 and 6822 6823 to 6826 incl. 6827 and 6830 6831 to 6834 incl. 6835 and 6838 6839 to 6842 incl. 6843 and 6846 6847 to 6850 incl. 6851 and 6854 6855 to 6858 incl. 6859 and 6862 6863 to 6866 incl. 6867 and 6870 6871 to 6874 incl. 6875 and 6878 6879 to 6882 incl. 6883 and 6886 6887 to 6890 incl. 6891 and 6894 6895 to 6898 incl. 6899 and 6902 6903 to 6906 incl. 6907 and 6910 6911 to 6914 incl. 6915 and 6918 6919 to 6922 incl. 6923 and 6926 6927 to 6930 incl. 6931 and 6934 6935 to 6938 incl. 6939 and 6942 6943 to 6946 incl. 6947 and 6950 6951 to 6954 incl. 6955 and 6958 6959 to 6962 incl. 6963 and 6966 6967 to 6970 incl. 6971 and 6974 6975 to 6978 incl. 6979 and 6982 6983 to 6986 incl. 6987 and 6990 6991 to 6994 incl. 6995 and 6998 6999 to 7002 incl. 7003 and 7006 7007 to 7010 incl. 7011 and 7014 7015 to 7018 incl. 7019 and 7022 7023 to 7026 incl. 7027 and 7030 7031 to 7034 incl. 7035 and 7038 7039 to 7042 incl. 7043 and 7046 7047 to 7050 incl. 7051 and 7054 7055 to 7058 incl. 7059 and 7062 7063 to 7066 incl. 7067 and 7070 7071 to 7074 incl. 7075 and 7078 7079 to 7082 incl. 7083 and 7086 7087 to 7090 incl. 7091 and 7094 7095 to 7098 incl. 7099 and 7102 7103 to 7106 incl. 7107 and 7110 7111 to 7114 incl. 7115 and 7118 7119 to 7122 incl. 7123 and 7126 7127 to 7130 incl. 7131 and 7134 7135 to 7138 incl. 7139 and 7142 7143 to 7146 incl. 7147 and 7150 7151 to 7154 incl. 7155 and 7158 7159 to 7162 incl. 7163 and 7166 7167 to 7170 incl. 7171 and 7174 7175 to 7178 incl. 7179 and 7182 7183 to 7186 incl. 7187 and 7190 7191 to 7194 incl. 7195 and 7198 7199 to 7202 incl. 7203 and 7206 7207 to 7210 incl. 7211 and 7214 7215 to 7218 incl. 7219 and 7222 7223 to 7226 incl. 7227 and 7230 7231 to 7234 incl. 7235 and 7238 7239 to 7242 incl. 7243 and 7246 7247 to 7250 incl. 7251 and 7254 7255 to 7258 incl. 7259 and 7262 7263 to 7266 incl. 7267 and 7270 7271 to 7274 incl. 7275 and 7278 7279 to 7282 incl. 7283 and 7286 7287 to 7290 incl. 7291 and 7294 7295 to 7298 incl. 7299 and 7302 7303 to 7306 incl. 7307 and 7310 7311 to 7314 incl. 7315 and 7318 7319 to 7322 incl. 7323 and 7326 7327 to 7330 incl. 7331 and 7334 7335 to 7338 incl. 7339 and 7342 7343 to 7346 incl. 7347 and 7350 7351 to 7354 incl. 7355 and 7358 7359 to 7362 incl. 7363 and 7366 7367 to 7370 incl. 7371 and 7374 7375 to 7378 incl. 7379 and 7382 7383 to 7386 incl. 7387 and 7390 7391 to 7394 incl. 7395 and 7398 7399 to 7402 incl. 7403 and 7406 7407 to 7410 incl. 7411 and 7414 7415 to 7418 incl. 7419 and 7422 7423 to 7426 incl. 7427 and 7430 7431 to 7434 incl. 7435 and 7438 7439 to 7442 incl. 7443 and 7446 7447 to 7450 incl. 7451 and 7454 7455 to 7458 incl. 7459 and 7462 7463 to 7466 incl. 7467 and 7470 7471 to 7474 incl. 7475 and 7478 7479 to 7482 incl. 7483 and 7486 7487 to 7490 incl. 7491 and 7494 7495 to 7498 incl. 7499 and 7502 7503 to 7506 incl. 7507 and 7510 7511 to 7514 incl. 7515 and 7518 7519 to 7522 incl. 7523 and 7526 7527 to 7530 incl. 7531 and 7534 7535 to 7538 incl. 7539 and 7542 7543 to 7546 incl. 7547 and 7550 7551 to 7554 incl. 7555 and 7558 7559 to 7562 incl. 7563 and 7566 7567 to 7570 incl. 7571 and 7574 7575 to 7578 incl. 7579 and 7582 7583 to 7586 incl. 7587 and 7590 7591 to 7594 incl. 7595 and 7598 7599 to 7602 incl. 7603 and 7606 7607 to 7610 incl. 7611 and 7614 7615 to 7618 incl. 7619 and 7622 7623 to 7626 incl. 7627 and 7630 7631 to 7634 incl. 7635 and 7638 7639 to 7642 incl. 7643 and 7646 7647 to 7650 incl. 7651 and 7654 7655 to 7658 incl. 7659 and 7662 7663 to 7666 incl. 7667 and 7670 7671 to 7674 incl. 7675 and 7678 7679 to 7682 incl. 7683 and 7686 7687 to 7690 incl. 7691 and 7694 7695 to 7698 incl. 7699 and 7702 7703 to 7706 incl. 7707 and 7710 7711 to 7714 incl. 7715 and 7718 7719 to 7722 incl. 7723 and 7726 7727 to 7730 incl. 7731 and 7734 7735 to 7738 incl. 77

The Management Page

EDITED BY CHRISTOPHER LORENZ

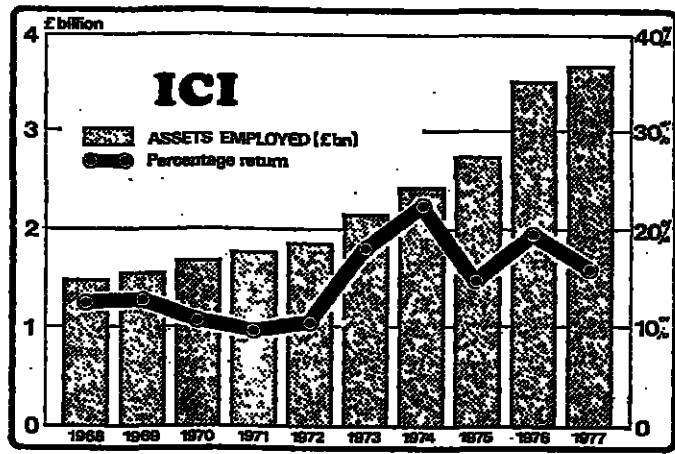
ICI — seeking the right chemistry

MAURICE HODGSON is taking over the chairmanship of Imperial Chemical Industries, the U.K.'s largest industrial group, in troubled times. His predecessor, Sir Rowland Wright, who officially retires from the ICI Board tomorrow, has already virtually written off 1978. He does not see any major improvement in world market conditions for the next 12 months, and for an industry whose fortunes are suddenly becoming much more tightly tied to the general progress in world trade, that suggests serious problems ahead.

It is not a prospect unique to ICI. Around the world the giant chemical multinational companies have been reporting falling profitability and stagnating sales. Hoechst AG, the West German parent concern of the world's biggest chemical company, saw profits fall 12.1 per cent. last year with sales down 2 per cent. Montedison, the perennially troubled Italian chemicals conglomerate, leads the list of the industry's losers with a deficit in 1977 of well over £300m. Even Dow Chemical of the U.S., for many years fortune's favourite child, saw its net earnings fall some 8 per cent. in 1977.

ICI bucked the trend longer than most, thanks to its wide geographical spread and diversified productions. But by the end of 1977 its profits had been cut back by 10.5 per cent. to some £485m, and most analysts are predicting a further drop this year, perhaps to the £430m. mark. It has won back the blue ribbon of being Britain's biggest exporter—£350m. last year—but that is small comfort to Maurice Hodgson as he looks ahead.

"If we are to keep up our investment programme to get to our strategic objectives we will have to improve profitability," he states plainly. For the time being he is confident that ICI can bridge the gap because of its enviable strong financial position, enhanced two months ago by its second venture into the U.S. debenture market to



raise \$175m. In recent years its liquidity has improved beyond recognition. ICI today is a different company from the one that in the mid-1960s was forced to stop construction of some major plants in mid-stream because it was running short of cash.

It is a lesson Maurice Hodgson is unlikely to forget. In 1966 he was drafted from the petrochemicals division on Teesside to ICI's headquarters at Millbank, to take over the newly-created post of general manager. From here he was instrumental in giving ICI its first effective system for capital budgeting and he is well aware of the disastrous consequences of relaxing the present tight central control of new projects. By raising money when the opportunity arose, rather than when necessity demanded it, ICI has since provided itself with a cushion against short-term falls in profitability. But as the new chairman points out: "This cannot last indefinitely."

Growth in demand for chemicals has turned down, partly because of general slow growth in the world economy, but also, says Hodgson, because

the rate at which chemical products can be substituted for natural substances is now leveling off. The high penetration reached in fibres, for instance, does not leave much room for future expansion. Price increases for many products are no doubt justified, but "it would be unwise to rely on getting prices up. There is a great need for this, but the climate is not easy."

So what is the path left for ICI? With its stated strategy of going for greater shares of the West European and U.S. markets acquisitions are clearly a possibility. It certainly has the financial strength to make such a move, but the company's new chairman is unwilling to commit himself on this point. For the time being Hodgson will only make clear his conviction that the main option to go for is a dramatic reduction in costs. He has set as priority in his first months as chairman to improve efficiency, particularly in the use of energy and raw materials. Last year some 88 per cent of the group's sales income of £4.6bn. was spent on raw materials and purchased services. Company studies show that

Kevin Done looks at how ICI is coping with the world recession and the role of its new chairman

ICI's record of efficiently using capital costs and cut energy raw materials can already bear needs to a quarter of current comparison with many of its levels. Union Carbide has European competitors, such as announced plans for installing—BASF, Akzo, Hoechst and by 1982—430,000 tonnes of Montedison. But it is still far extra low density polyethylene ing some way behind the U.S. capacity using the new process. majors, Du Pont, Monsanto and ICI chairmen are in the habit Dow. Hand in hand with of pointing out that a change of reducing energy and feedstock personnel at the top rarely costs must come the more skill- ushers in a new era. The ful running of plants.

In the face of large surplus overcapacity, particularly in placed on improving technology base petrochemicals and to conserve feedstocks and plastics, companies are increasingly choosing to shut down less economic plants in one part of Europe, in order to run others at full capacity. In By last year this effort was representing a saving of some £40m. a year.

Maurice Hodgson's first priority is clearly to improve substantially on this record, but close behind he is also conscious of the gap in labour productivity that exists between ICI and its biggest rivals on the continent and in the U.S.

Wages and salaries take about 27 per cent of sales income, a fact that belies the common belief that ICI operations are not labour intensive. The image is understandably fostered by modern petrochemicals operations; £150m. can be invested in a new ethylene plant and the number of ICI jobs created is minimal. But such a picture tends to omit highly labour-intensive activities such as the packaging of pharmaceuticals at Macleodfield, the manufacture of detonators at Ardeer or of paint at Slough.

The philosophy is already at work. The new 120,000 tonnes a year polypropylene plant that ICI is building at Rozenburg, Holland, is using a unique process developed by BASF, the West German chemical company. Compared with existing plants the new gas-phase process is said to represent capital cost savings of at least 20 per cent.

ICI, which pioneered another major plastic, polyethylene, will, in the future, have to follow carefully the progress made by Union Carbide in this field. The U.S. company claims to have made a significant process advance, which will halve



Maurice Hodgson: looking for a consensus

"Productivity must be improved," says Hodgson, "but I wish we could find a new word; people are fed up with hearing it." Understandably it is a sensitive issue with the trade unions. They see a big capital expenditure programme rolling forward—£491m. last year and £700m. this year—but the net result is a reduction in the numbers employed by ICI, down 5,000 (4,000 of those in the U.K.) last year to 154,000 worldwide. Since 1973 many of the jobs have disappeared from the loss-making fibres division, where ICI has been trying to reduce the workforce by 30 per cent, while going for an increase of 30 per cent in production.

In such a ruthless process, what place do ICI's social obligations command, as the Du Pont, Hercules, and Monsanto. It compares more favourably with continental rivals, but is behind the big three of the numbers employed generally in manufacturing West German industry. It is a delicate equation to balance. In industry are in decline. The

question is how they will decline. If we go for job preservation the numbers in manufacturing will still decline, but we will become uncompetitive and whole factories will have to close.

"If we improve productivity, the numbers will still go down, but it will be in a way that generates more wealth and creates work in other sectors. Some 40,000 jobs in engineering and construction are created by the present capital expenditure programme."

In terms of sales per employee, ICI's productivity is improving, and it was boosted by last year's sale of its 63 per cent stake in Imperial Metal Industries. But company studies show it still lagging well behind U.S. rivals, such as Dow, Du Pont, Hercules, and Monsanto. It compares more favourably with continental rivals, but is behind the big three of the numbers employed generally in manufacturing West German industry. It is a delicate equation to balance. In industry are in decline. The

an analysis made last year by the authoritative journal, Chemical Insight, ICI moved up to third place in the world chemicals league on a general rating of quality of performance. One of the factors taken into account was that it had the lowest wages bill of all the chemical majors, a ready-made bargaining point for unions under pressure to improve productivity.

The unions are also sensitive about another vitally important strand of ICI corporate strategy, its determination to become a major force in U.S. and continental European markets. ICI is convinced that such an aim can only be achieved by a far greater degree of local manufacture. Exporting from the U.K. is not enough. Hodgson is adamant that ICI's business outside the U.K. will grow faster than domestic sales. The U.K. represents 7 per cent. of the world chemical market, while the U.S. and Western Europe each account for about 30 per cent.

This month the ICI main board has sanctioned the second half of a £290m. parallel investment in chlorine and related products at Wilton, on Teesside and at Wilhelmshaven in northern Germany. The projects are closely related and are part of the company's strategy for consolidating its manufacturing position in northern Europe around the North Sea basin.

It is a long-term act of faith in the European market. Last year ICI made a trading loss on the continent of £3m. on sales of £730m., but with its present investment programme it must look forward to at least the early 1980s before it can measure the strategy's success. By then it will have drastically changed the company's outlook. Hodgson says, "The old distinction of looking at the manufacturing divisions as the U.K. and continental Western Europe as an export area, is becoming inappropriate. There is no longer any territorial division with a Channel in between."

Hodgson chooses his new role

THE CHAIRMAN of ICI is not a chief executive, says Maurice Hodgson, who takes over the job tomorrow. "We haven't had one of those for a long time; the business is complex."

"The chairman is the man who organises the work of the board and tries to achieve the consensus view on major issues. He must judge carefully when it has been reached, because consensus is not the same as unanimity."

Much of the skill lies in the delegation of the workload, not only of the chairman, but also of the entire board, to make the best use of the considerable management resources available in the company.

His predecessor, Sir Rowland Wright, a former personnel director, took the opportunity of the chairmanship to become personally acquainted with many of the more far-flung parts of the ICI empire, and became deeply involved in the debate sparked off by the Bullock Report on industrial democracy.

ICI's external and internal relations can easily swallow up the chairman's time, but

Hodgson is determined to find the hours to remain directly involved in the running of the business. His expertise in recent years has been developed in the fields of investment and finance and he is too closely engaged to give them up completely.

With a capital expenditure programme of £700m. this year and more in 1979, the importance of the ground rules established by the new chairman in his early planning role can be easily appreciated. His financial knowledge of this vital area of group affairs brings a unique experience to the top of the company.

He plays down, however, the degree of influence that a chairman can bring to bear. "Corporate strategy operates over a longer time-span than the stay of one chairman. The investment programme has to look over a five-year period. It is not written in tablets of stone, but it does not change radically over that period."

In contrast to this picture of apparent cautious development the legend is also growing that ICI has appointed a gambler as its latest chairman.

As a description of Maurice Hodgson's private life it is true to a degree, but it hardly reflects fully the increasingly dominant role he has played in ICI's affairs over the last 36 years.

His public ambition might be to make ICI a greater force on the continent and in the U.S., and to make it more productive and efficient, but his private goal is to own a racehorse. Unlike the doubts that can surround corporate objectives, this aim at least could well be achieved, by next year.

He enjoys racing as a social scene and it is a fertile source of anecdotes for the growing number of functions that come with the job of chairman of ICI. And it is to metaphors of the gambler that he turns to describe the extraordinary trials he has undergone to save his eyesight—operations which he describes with a self-effacing humour which belies his courage and determination.

From the age of about 40 his eyesight began to deteriorate, and it became obvious that he would have to undergo a corneal graft on both eyes. In his own words, the first one was a disaster. "I then had to play double or quits with the second eye." It was successful, but the operation revealed that there was also a cataract. The gamble had to be faced up to again and repeated. Mercifully the gamble paid off.

To cope with the years when he was unable to read, in the conventional sense, Hodgson assembled an array of aids, which pay tribute to both his imagination and determination. One of these was to have documents recorded for him, but because listening to tapes was too time-consuming a process, he trained himself to listen to the tapes at 24 times the normal speed. He used an electronic device to unscramble the tapes and stop them sounding like Donald Duck.

A new lease of life for your business

More and more companies recognise the benefits of vehicle leasing. Improved cash flow, release of capital and tax advantages. Plus of course a much lower initial outlay for business customers. But in today's unrelentingly tight economy, it is essential to avoid inflexible long term commitments. That's why we have introduced Flexible Leasing. This unique scheme provides all the usual advantages of Leasing on very flexible terms—plus freedom to change vehicles during the agreement at no cost. Think what this could mean to your business.

Let us explain our Flexible Leasing Service to you. Ray Frederick, General Manager, 01-707 0406—or write to the address below for details of the car leasing service with a difference.

Bristol Street Motors
Autolease
B.S.G. Leasing Ltd., Burgess House,
1270 Coventry Road, Yardley,
Birmingham B25 9BB.

Our flights to Rotterdam mean business

BIA's fast, direct flights to Rotterdam from Gatwick depart 17 times a week for your business meetings in the Hague and Delft—as well as Rotterdam itself.

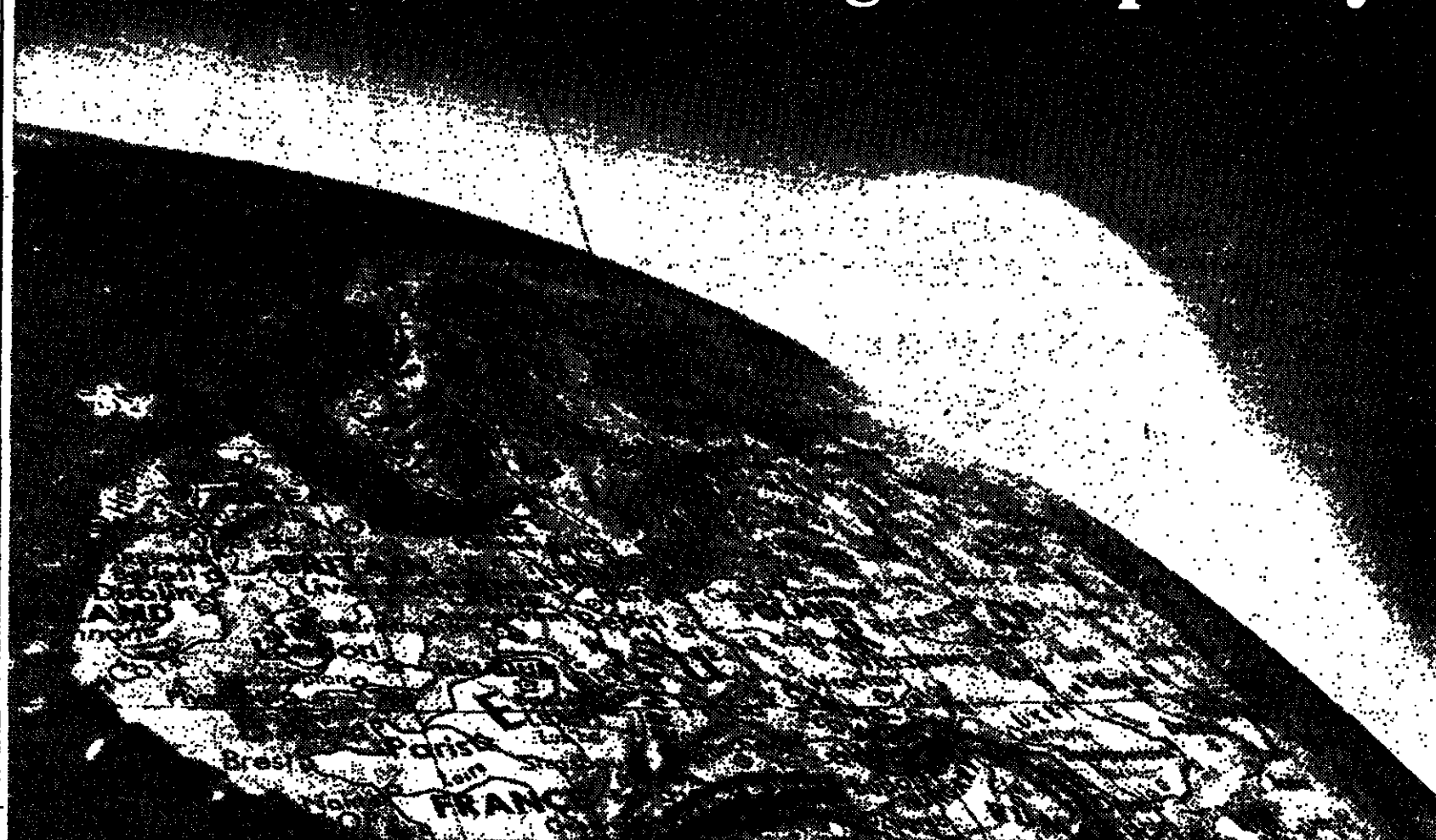
Our first flight leaves at 0800 and our departures are designed to suit your plans perfectly—however tight your schedule. And we can return you home the same day.

Whenever you go you will enjoy the attention and service that makes a BIA flight special.

When you mean business—fly British Island Airways to Rotterdam.

British Island Airways. Closer to you. **BIA**

What's the TD Bank doing in Europe today?



Living up to its reputation.

Toronto Dominion is a Canadian bank which has been building its reputation in Europe for over 60 years. A reputation that is based on our ability to interpret the current business environment and our experience in arranging major sophisticated financial transactions for a wide variety of customers.

Through our global network of over 980 branches, we can arrange Euro-currency financing, term loans for capital expansion or consortium financing for

large scale projects.

Regardless of the size or nature of your requirements, we have the stability and resources required to act effectively. And to every customer we bring the experience gained in 120 years of successful banking.

Discuss your financial plans with us and put our reputation to the test. Toronto Dominion. Financial partner with corporations, governments and banks.

TD BANK **TORONTO DOMINION BANK**
where people make the difference

World-wide assets exceed CAN \$18-billion. Head office—Toronto-Dominion Centre, Toronto, Canada.
Regional Office—Europe, Middle East and Africa: St. Helen's, 1 Undershaft, London EC3A 8HU. Telephone 01-283-0071

OTHER INTERNATIONAL OFFICES

Frankfurt New York San Francisco
Houston Los Angeles Chicago
Singapore Hong Kong Jakarta
Bangkok Taipei Tokyo
Mexico City Panama Sao Paulo
Beirut Abu Dhabi Dubai
Tehran

OUR FACTORY LEASES LEAVE YOU FREE TO MOVE.

The lease of a factory that you have outgrown can be something of a millstone.

That's one problem that you won't have on your shoulders in Milton Keynes.

If you move from one of our factories to another of our factories, you can hand the original lease back to us.

This means you can afford to pick a factory that's just big enough for your immediate needs.

We can offer you a choice from 500 to 25,000 square feet, all ready and waiting to move into. At very competitive rates.

We're now building factories up to 50,000 square feet. And we have serviced leasehold sites available if you prefer to build your own.

So if you need more room in the future, you can have it. We have a workforce ready to work, too. And a wide range of housing to rent or buy.

We also enjoy a perfect business position. Milton Keynes is right on the M1, the A5, and the main line from London to Birmingham.

(We're almost exactly midway between the two.)

Our factory leases leave you free to move, in every sense.



MILTON KEYNES

I would like to know more. Please send me details.

Name _____ Position _____

Company _____

Address _____

AFU50

DEVELOPMENT CORPORATION
MILTON KEYNES DEVELOPMENT CORPORATION
100000 TOWER MILTON KEYNES MK17 0JL

Opening up the Spanish market

Jobs but not just for the boys

BY ROBERT GRAHAM

THE ADMISSION of foreign banks to the Spanish banking system is not a topic which arouses much public interest. Nor, one suspects, does it greatly trouble the sleep of the Prime Minister and his cabinet. Lip service has been paid to the principle of admitting the foreign banks for almost a year now, but clearly the Government feels it has more urgent things to worry about. The necessary legislation was promulgated by the New Year and now it is unlikely before the summer and the cynics are looking ahead to the year end before any concrete measures are taken.

First test

Yet the question of how and when Spain will choose to open the doors of its banking system to foreign competition is not a negligible one. It is the first test of the extent to which Spain is willing to live up to its promise in the Post-Franco era of removing its traditional restrictive and isolationist approach to the international financial and business community.

The foreign bankers have long eyed Spain as the last untapped area for development in Europe—not unlike the major manufacturing sites and eight years back. Some 60 foreign banks have submitted applications and a good proportion have already established representatives' offices to prepare the ground.

The Spanish bankers are a powerful lobby and from the start the Government has preferred to duck the issue, leaving the formulation of proposals to them. This has resulted in an ostrich-like approach to what would seem the inevitable majority reaction among bankers, highly conservative by training, has been one of fear—a fear that the sophisticated techniques of the large multinational banks will synch off a lucrative slice of business. Put less politely the Spanish banking community has been the most cosseted and best protected in Europe, and quite naturally most have resented the idea that should be brushed aside in a free scramble for business. Therefore, like the man who knows he has to perform an unpleasant

task, the tendency is to delay as long as possible. Also in practical terms the bankers sought to soften the impact of admitting the foreign banks by initially proposing what could only be called punitive conditions, knowing full well that the likely contenders would be reduced to a manageable number. The original proposals included a \$17m. equivalent reserve deposit, as well as important restrictions on peseta dealings. These conditions are reported to have been toned down—in particular the deposit is now said to be about half the original proposal. Like it or not, the Government has thus found itself as a protectionist demanded of its own banking community and the conditions that the international banks would like to see which, as important creditors, are not without effect. This dilemma is the main cause of the delay.

Life-blood

Of course foreign banks will stimulate competition. Yet the more sensible realise, as this competition is the life-blood of the market economy towards which Spain is pointing as a future member of the EEC. Besides competition already exists from outside. Four foreign banks are operating and several others have minority interests. More importantly the foreign banks predominate in a key area of business—foreign loans—accounting for over 70 per cent. They are also serviceable, as national entities where possible.

The least understood principle until very recently in the whole issue of foreign banks has been reciprocity. While Spanish banks have been to expand overseas, especially in London and New York, there has been very little to the activities of Spanish banks abroad if they continue to be restrictive at home. By the same token, apologists of foreign banks in Spain have pointed out that if Spanish banks can prosper abroad (which they have done), then the same should apply to Spain if it is to consider itself to possess a modern international financial system.

will be disappointed with today's four-runners turn-out for Aintree's £5,000 Gillette Trophy chase.

Mac's Chariot for Gillette

GILLETTE, probably the most experienced company in Britain when it comes to sponsorship and just about the most successful with such proven winners as its one-day cricket series,

ship and found horse racing a clear-cut victory in the Rosebery Stakes.

The handsome Derrington colt may have most to fear from Roland Gardens, another bay son of that sire. Derrington has already produced one, 2,000 Guineas winner, Highland top, and another of his progeny, Huntercombe, might have won if the ground had been up fast.

RACING

BY DOMINIC WIGAN

will be disappointed with today's four-runners turn-out for Aintree's £5,000 Gillette Trophy chase.

Two or three years back the company's promotional experts looked closely at the Gillette Trophy chase and decided that it should be gained from sport sponsor-

oddy or not, the 30-board members drawn from all walks of life in the region, plus the small executive staff have plunged into the task of regenerating the area and its many small communities with tremendous enthusiasm. In the short space of 12 months the effort has already produced some remarkable successes.

Of the 36 factories which the Board inherited when it started, 18 have been let already and another 13 have been provisionally allocated pending the completion of negotiations. This compares with a rate of letting of advance factories in the area before the Board came into being averaging only five a year. Inquiries from interested manufacturers, tempted by the Board's aggressive marketing campaign, are coming into its headquarters at Newtown, at the rate of 100 a month with the result that the Board is having to think of rapidly building more advance units.

The number of jobs created in each instance has not been large, but the fact is that a factory employing only a couple of dozen people in an area like Mid-Wales can make a vital contribution towards underpinning a village or small town community.

The Board's advance factories range from 1,500 to 50,000 square feet, at rents varying from 60p to 70p a square foot. All have room alongside for

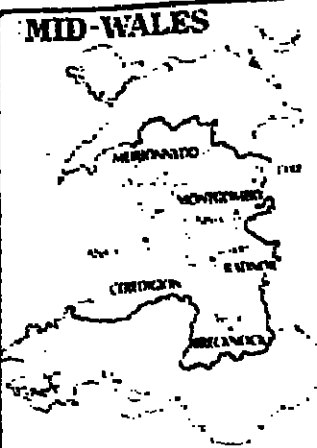
expansion. The Board usually can offer a two-year rent free period, in some circumstances stretching up to five years.

At the same time the Board is facilitating the development of new enterprises by building a selection of small "starter factories" of 500 square feet, initially in Newtown. They are available to anyone wishing to try a new manufacturing venture.

The Board enjoys the power, to build houses, which flows from its responsibility for continuing to develop Newtown. This is claimed as a special advantage for incoming industry which can have accommodation immediately available for key personnel.

The Board's ability to make grants to improve social infrastructure is also a support for the industrial effort. A total of 137 grants have been made in the first year towards sports, leisure, and cultural facilities which might otherwise not have been provided.

The Board is able to offer certain loan facilities itself and to sort out the complicated array of grants and loans available from the Government and other sources. It has made a special point of trying to give a "one stop shopping" service to interested manufacturers which seems to have been an important ingredient in its success. If Dr. Iain Skewis, the Scottish



MID-WALES

chief executive, has a complaint it is against the Board's inability to give a man with a bright idea but no track record an unsecured loan or grant just to get going. This is a power enjoyed by the Highlands and Islands Development Board where he began his industrial development career.

Few indigenous businesses have sprung up so far to take advantage of the incentives offered by the board. The majority of customers to date have been light manufacturing concerns, relocating from the Midlands and South East England. But the board remains very conscious of the need to develop Mid-Wales's own native resources. Studies have been commissioned into the possibilities for marine and fresh water fish farming, the restoration of

an effective fishing industry in Cardigan Bay, and into the use of local peat and slate.

The opportunities for assisting industries connected with agriculture and forestry, such as food packing and making timber by-products, are also being examined. A survey of the Mid-Wales souvenir industry discovered a market worth £1.5m a year, much of which was filled by crafts and trinkets produced elsewhere. The board has set itself the task of both winning back the lion's share of this lucrative gift market by encouraging producers, and of promoting the export of Made in Wales souvenirs of good quality.

The board recently set itself a target of creating 9,000 new jobs in the region during the next five years. Success will partly depend on the overall economic climate, but Dr. Skewis takes a refreshing non-sensical view that it is essentially a matter of getting things in and competing "with vigour and imagination" for new investment. The years of recovery under the plight of Mid-Wales contrast starkly with his view of Mid-Wales as a "something with strengths and weaknesses but of great attractions" to a generation tiring of the problems of urban living. Given the great interest aroused by the board in its first year of effort, perhaps he is right.

FRIDAY, MARCH 31, 1978

Indicates programme in black and white.

BBC 1

6.40 a.m. Open University. 9.30 a.m. Schools. 10.00 Jackanory. 10.15 a.m. The Clangers. 10.40 a.m. The Clangers. 11.00 a.m. The Clangers. 11.15 a.m. The Clangers. 11.30 a.m. The Clangers. 11.45 a.m. The Clangers. 12.00 p.m. The Clangers. 12.15 p.m. The Clangers. 12.30 p.m. The Clangers. 12.45 p.m. The Clangers. 1.00 p.m. The Clangers. 1.15 p.m. The Clangers. 1.30 p.m. The Clangers. 1.45 p.m. The Clangers. 2.00 p.m. The Clangers. 2.15 p.m. The Clangers. 2.30 p.m. The Clangers. 2.45 p.m. The Clangers. 3.00 p.m. The Clangers. 3.15 p.m. The Clangers. 3.30 p.m. The Clangers. 3.45 p.m. The Clangers. 4.00 p.m. The Clangers. 4.15 p.m. The Clangers. 4.30 p.m. The Clangers. 4.45 p.m. The Clangers. 5.00 p.m. The Clangers. 5.15 p.m. The Clangers. 5.30 p.m. The Clangers. 5.45 p.m. The Clangers. 6.00 p.m. The Clangers. 6.15 p.m. The Clangers. 6.30 p.m. The Clangers. 6.45 p.m. The Clangers. 7.00 p.m. The Clangers. 7.15 p.m. The Clangers. 7.30 p.m. The Clangers. 7.45 p.m. The Clangers. 8.00 p.m. The Clangers. 8.15 p.m. The Clangers. 8.30 p.m. The Clangers. 8.45 p.m. The Clangers. 9.00 p.m. The Clangers. 9.15 p.m. The Clangers. 9.30 p.m. The Clangers. 9.45 p.m. The Clangers. 10.00 p.m. The Clangers. 10.15 p.m. The Clangers. 10.30 p.m. The Clangers. 10.45 p.m. The Clangers. 11.00 p.m. The Clangers. 11.15 p.m. The Clangers. 11.30 p.m. The Clangers. 11.45 p.m. The Clangers. 12.00 a.m. The Clangers. 12.15 a.m. The Clangers. 12.30 a.m. The Clangers. 12.45 a.m. The Clangers. 1.00 a.m. The Clangers. 1.15 a.m. The Clangers. 1.30 a.m. The Clangers. 1.45 a.m. The Clangers. 2.00 a.m. The Clangers. 2.15 a.m. The Clangers. 2.30 a.m. The Clangers. 2.45 a.m. The Clangers. 3.00 a.m. The Clangers. 3.15 a.m. The Clangers. 3.30 a.m. The Clangers. 3.45 a.m. The Clangers. 4.00 a.m. The Clangers. 4.15 a.m. The Clangers. 4.30 a.m. The Clangers. 4.45 a.m. The Clangers. 5.00 a.m. The Clangers. 5.15 a.m. The Clangers. 5.30 a.m. The Clangers. 5.45 a.m. The Clangers. 6.00 a.m. The Clangers. 6.15 a.m. The Clangers. 6.30 a.m. The Clangers. 6.45 a.m. The Clangers. 7.00 a.m. The Clangers. 7.15 a.m. The Clangers. 7.30 a.m. The Clangers. 7.45 a.m. The Clangers. 8.00 a.m. The Clangers. 8.15 a.m. The Clangers. 8.30 a.m. The Clangers. 8.45 a.m. The Clangers. 9.00 a.m. The Clangers. 9.15 a.m. The Clangers. 9.30 a.m. The Clangers. 9.45 a.m. The Clangers. 10.00 a.m. The Clangers. 10.15 a.m. The Clangers. 10.30 a.m. The Clangers. 10.45 a.m. The Clangers. 11.00 a.m. The Clangers. 11.15 a.m. The Clangers. 11.30 a.m. The Clangers. 11.45 a.m. The Clangers. 12.00 a.m. The Clangers. 12.15 a.m. The Clangers. 12.30 a.m. The Clangers. 12.45 a.m. The Clangers. 1.00 a.m. The Clangers. 1.15 a.m. The Clangers. 1.30 a.m. The Clangers. 1.45 a.m. The Clangers. 2.00 a.m. The Clangers. 2.15 a.m. The Clangers. 2.30 a.m. The Clangers. 2.45 a.m. The Clangers. 3.00 a.m. The Clangers. 3.15 a.m. The Clangers. 3.30 a.m. The Clangers. 3.45 a.m. The Clangers. 4.00 a.m. The Clangers. 4.15 a.m. The Clangers. 4.30 a.m. The Clangers. 4.45 a.m. The Clangers. 5.00 a.m. The Clangers. 5.15 a.m. The Clangers. 5.30 a.m. The Clangers. 5.45 a.m. The Clangers. 6.00 a.m. The Clangers. 6.15 a.m. The Clangers. 6.30 a.m. The Clangers. 6.45 a.m. The Clangers. 7.00 a.m. The Clangers. 7.15 a.m. The Clangers. 7.30 a.m. The Clangers. 7.45 a.m. The Clangers. 8.00 a.m. The Clangers. 8.15 a.m. The Clangers. 8.30 a.m. The Clangers. 8.45 a.m. The Clangers. 9.00 a.m. The Clangers. 9.15 a.m. The Clangers. 9.30 a.m. The Clangers. 9.45 a.m. The Clangers. 10.00 a.m. The Clangers. 10.15 a.m. The Clangers. 10.30 a.m. The Clangers. 10.45 a.m. The Clangers. 11.00 a.m. The Clangers. 11.15 a.m. The Clangers. 11.30 a.m. The Clangers. 11.45 a.m. The Clangers. 12.00 a.m. The Clangers. 12.15 a.m. The Clangers. 12.30 a.m. The Clangers. 12.45 a.m. The Clangers. 1.00 a.m. The Clangers. 1.15 a.m. The Clangers. 1.30 a.m. The Clangers. 1.45 a.m. The Clangers. 2.00 a.m. The Clangers. 2.15 a.m. The Clangers. 2.30 a.m. The Clangers. 2.45 a.m. The Clangers. 3.00 a.m. The Clangers. 3.15 a.m. The Clangers. 3.30 a.m. The Clangers. 3.45 a.m. The Clangers. 4.00 a.m. The Clangers. 4.15 a.m. The Clangers. 4.30 a.m. The Clangers. 4.45 a.m. The Clangers. 5.00 a.m. The Clangers. 5.15 a.m. The Clangers. 5.30 a.m. The Clangers. 5.45 a.m. The Clangers. 6.00 a.m. The Clangers. 6.15 a.m. The Clangers. 6.30 a.m. The Clangers. 6.45 a.m. The Clangers. 7.00 a.m. The Clangers. 7.15 a.m. The Clangers. 7.30 a.m. The Clangers. 7.45 a.m. The Clangers. 8.00 a.m. The Clangers. 8.15 a.m. The Clangers. 8.30 a.m. The Clangers. 8.45 a.m. The Clangers. 9.00 a.m. The Clangers. 9.15 a.m. The Clangers. 9.30 a.m. The Clangers. 9.45 a.m. The Clangers. 10.00 a.m. The Clangers. 10.15 a.m. The Clangers. 10.30 a.m. The Clangers. 10.45 a.m. The Clangers. 11.00 a.m. The Clangers. 11.15 a.m. The Clangers. 11.30 a.m. The Clangers. 11.45 a.m. The Clangers. 12.00 a.m. The Clangers. 12.15 a.m. The Clangers. 12.30 a.m. The Clangers. 12.45 a.m. The Clangers. 1.00 a.m. The Clangers. 1.15 a.m. The Clangers. 1.30 a.m. The Clangers. 1.45 a.m. The Clangers. 2.00 a.m. The Clangers. 2.15 a.m. The Clangers. 2.30 a.m. The Clangers. 2.45 a.m. The Clangers. 3.00 a.m. The Clangers. 3.15 a.m. The Clangers. 3.30 a.m. The Clangers. 3.45 a.m. The Clangers. 4.00 a.m. The Clangers. 4.15 a.m. The Clangers. 4.30 a.m. The Clangers. 4.45 a.m. The Clangers. 5.00 a.m. The Clangers. 5.15 a.m. The Clangers. 5.30 a.m. The Clangers. 5.45 a.m. The Clangers. 6.00 a.m. The Clangers. 6.15 a.m. The Clangers. 6.30 a.m. The Clangers. 6.45 a.m. The Clangers. 7.00 a.m. The Clangers. 7.15 a.m. The Clangers. 7.30 a.m. The Clangers. 7.45 a.m. The Clangers. 8.00 a.m. The Clangers. 8.15 a.m. The Clangers. 8.30 a.m. The Clangers. 8.45 a.m. The Clangers. 9.00 a.m. The Clangers. 9.15 a.m. The Clangers. 9.30 a.m. The Clangers. 9.45 a.m. The Clangers. 10.00 a.m. The Clangers. 10.15 a.m. The Clangers. 10.30 a.m. The Clangers. 10.45 a.m. The Clangers. 11.00 a.m. The Clangers. 11.15 a.m. The Clangers. 11.30 a.m. The Clangers. 11.45 a.m. The Clangers. 12.00 a.m. The Clangers. 12.15 a.m. The Clangers. 12.30 a.m. The Clangers. 12.45 a.m. The Clangers. 1.00 a.m. The Clangers. 1.15 a.m. The Clangers. 1.30 a.m. The Clangers. 1.45 a.m. The Clangers. 2.00 a.m. The Clangers. 2.15 a.m. The Clangers. 2.30 a.m. The Clangers. 2.45 a.m. The Clangers. 3.00 a.m. The Clangers. 3.15 a.m. The Clangers. 3.30 a.m. The Clangers. 3.45 a.m. The Clangers. 4.00 a.m. The Clangers. 4.15 a.m. The Clangers. 4.30 a.m. The Clangers. 4.45 a.m. The Clangers. 5.00 a.m. The Clangers. 5.15 a.m. The Clangers. 5.30 a.m. The Clangers. 5.45 a.m. The Clangers. 6.00 a.m. The Clangers. 6.15 a.m. The Clangers. 6.30 a.m. The Clangers. 6.45 a.m. The Clangers. 7.00 a.m. The Clangers. 7.15 a.m. The Clangers. 7.30 a.m. The Clangers. 7.45 a.m. The Clangers. 8.00 a.m. The Clangers. 8.15 a.m. The Clangers. 8.30 a.m. The Clangers. 8.45 a.m. The Clangers. 9.00 a.m. The Clangers. 9.15 a.m. The Clangers. 9.30 a.m. The Clangers. 9.45 a.m. The Clangers. 10.00 a.m. The Clangers. 10.15 a.m. The Clangers. 10.30 a.m. The Clangers. 10.45 a.m. The Clangers. 11.00 a.m. The Clangers. 11.15 a.m. The Clangers. 11.30 a.m. The Clangers. 11.45 a.m. The Clangers. 12.00 a.m. The Clangers. 12.15 a.m. The Clangers. 12.30 a.m. The Clangers. 12.45 a.m. The Clangers. 1.00 a.m. The Clangers. 1.15 a.m. The Clangers. 1.30 a.m. The Clangers. 1.45 a.m. The Clangers. 2.00 a.m. The Clangers. 2.15 a.m. The Clangers. 2.30 a.m. The Clangers. 2.45 a.m. The Clangers. 3.00 a.m. The Clangers. 3.15 a.m. The Clangers. 3.30 a.m. The Clangers. 3.45 a.m. The Clangers. 4.00 a.m. The Clangers. 4.15 a.m. The Clangers. 4.30 a.m. The Clangers. 4.45 a.m. The Clangers. 5.00 a.m. The Clangers. 5.15 a.m. The Clangers. 5.30 a.m. The Clangers. 5.45 a.m. The Clangers. 6.00 a.m. The Clangers. 6.15 a.m. The Clangers. 6.30 a.m. The Clangers. 6.45 a.m. The Clangers. 7.00 a.m. The Clangers. 7.15 a.m. The Clangers. 7.30 a.m. The Clangers. 7.45 a.m. The Clangers. 8.00 a.m. The Clangers. 8.15 a.m. The Clangers. 8.30 a.m. The Clangers. 8.45 a.m. The Clangers. 9.00 a.m. The Clangers. 9.15 a.m. The Clangers. 9.30 a.m. The Clangers. 9.45 a.m. The Clangers. 10.00 a.m. The Clangers. 10.15 a.m. The Clangers. 10.30 a.m. The Clangers. 10.45 a.m. The Clangers. 11.00 a.m. The Clangers. 11.15 a.m. The Clangers. 11.30 a.m. The Clangers. 11.45 a.m. The Clangers. 12.00 a.m. The Clangers. 12.15 a.m. The Clangers. 12.30 a.m. The Clangers. 12.45 a.m. The Clangers. 1.00 a.m. The Clangers. 1.15 a.m. The Clangers. 1.30 a.m. The Clangers. 1.45 a.m. The Clangers. 2.00 a.m. The Clangers. 2.15 a.m. The Clangers. 2.30 a.m. The Clangers. 2.45 a.m. The Clangers. 3.00 a.m. The Clangers. 3.15 a.m. The Clangers. 3.30 a.m. The Clangers. 3.45 a.m. The Clangers. 4.00 a.m. The Clangers. 4.15 a.m. The Clangers. 4.30 a.m. The Clangers. 4.45 a.m. The Clangers. 5.00 a.m. The Clangers. 5.15 a.m. The Clangers. 5.30 a.m. The Clangers. 5.45 a.m. The Clangers. 6.00 a.m. The Clangers. 6.15 a.m. The Clangers. 6.30 a.m. The Clangers. 6.45 a.m. The Clangers. 7.00 a.m. The Clangers. 7.15 a.m. The Clangers. 7.30 a.m. The Clangers. 7.45 a.m. The Clangers. 8.00 a.m. The Clangers. 8.15 a.m. The Clangers. 8.30 a.m. The Clangers. 8.45 a.m. The Clangers. 9.00 a.m. The Clangers. 9.15 a.m. The Clangers. 9.30 a.m. The Clangers. 9.45 a.m. The Clangers. 10.00 a.m. The Clangers. 10.15 a.m. The Clangers. 10.30 a.m. The Clangers. 10.45 a.m. The Clangers. 11.00 a.m. The Clangers. 11.15 a.m. The Clangers. 11.30 a.m. The Clangers. 11.45 a.m. The Clangers. 12.00 a.m. The Clangers. 12.15 a.m. The Clangers. 12.30 a.m. The Clangers. 12.45 a.m. The Clangers. 1.00 a.m. The Clangers. 1.15 a.m. The Clangers. 1.30 a.m. The Clangers. 1.45 a.m. The Clangers. 2.00 a.m. The Clangers. 2.15 a.m. The Clangers. 2.30 a.m. The Clangers. 2.45 a.m. The Clangers. 3.00 a.m. The Clangers. 3.15 a.m. The Clangers. 3.30 a.m. The Clangers. 3.45 a.m. The Clangers. 4.00 a.m. The Clangers. 4.15 a.m. The Clangers. 4.30 a.m. The Clangers. 4.45 a.m. The Clangers. 5.00 a.m. The Clangers. 5.15 a.m. The Clangers. 5.30 a.m. The Clangers. 5.45 a.m. The Clangers. 6.00 a.m. The Clangers. 6.15 a.m. The Clangers. 6.30 a.m. The Clangers. 6.45 a.m. The Clangers. 7.00 a.m. The Clangers. 7.15 a.m. The Clangers. 7.30 a.m. The Clangers. 7.45 a.m. The Clangers. 8.00 a.m. The Clangers. 8.15 a.m. The Clangers. 8.30 a.m. The Clangers. 8.45 a.m. The Clangers. 9.00 a.m. The Clangers. 9.15 a.m. The Clangers. 9.30 a.m. The Clangers. 9.45 a.m. The Clangers. 10.00 a.m. The Clangers. 10.15 a.m. The Clangers. 10.30 a.m. The Clangers. 10.45 a.m. The Clangers. 11.00 a.m. The Clangers. 11.15 a.m. The Clangers. 11.30 a.m. The Clangers. 11.45 a.m. The Clangers. 12.00 a.m. The Clangers. 12.15 a.m. The Clangers. 12.30 a.m. The Clangers. 12.45 a.m. The Clangers. 1.00 a.m. The Clangers. 1.15 a.m. The Clangers. 1.30 a.m. The Clangers. 1.45 a.m. The Clangers. 2.00 a.m. The Clangers. 2.15 a.m. The Clangers. 2.30 a.m. The Clangers. 2.45 a.m. The Clangers. 3.00 a.m. The Clangers. 3.15 a.m. The Clangers. 3.30 a.m. The Clangers. 3.45 a.m. The Clangers. 4.00 a.m. The Clangers. 4.15 a.m. The Clangers. 4.30 a.m. The Clangers. 4.45 a.m. The Clangers. 5.00 a.m. The Clangers. 5.15 a.m. The Clangers. 5.30 a.m. The Clangers. 5.45 a.m. The Clangers. 6.00 a.m. The Clangers. 6.15 a.m. The Clangers. 6.30 a.m. The Clangers. 6.45 a.m. The Clangers. 7.00 a.m. The Clangers. 7.15 a.m. The Clangers. 7.30 a.m. The Clangers. 7.45 a.m. The Clangers. 8.00 a.m. The Clangers. 8.15 a.m. The Clangers. 8.30 a.m. The Clangers. 8.45 a.m. The Clangers. 9.00 a.m. The Clangers. 9.15 a.m. The Clangers. 9.30 a.m. The Clangers. 9.45 a.m. The Clangers. 10.00 a.m. The Clangers. 10.15 a.m. The Clangers. 10.30 a.m. The Clangers. 10.45 a.m. The Clangers. 11.00 a.m. The Clangers. 11.15 a.m. The Clangers. 11.30 a.m. The Clangers. 11.45 a.m. The Clangers. 12.00 a.m. The Clangers. 12.15 a.m. The Clangers. 12.30 a.m. The Clangers. 12.45 a.m. The Clangers. 1.00 a.m. The Clangers. 1.15 a.m. The Clangers. 1.30 a.m. The Clangers. 1.45 a.m. The Clangers. 2.00 a.m. The Clangers. 2.15 a.m. The Clangers. 2.30 a.m. The Clangers. 2.45 a.m. The Clangers. 3.00 a.m. The Clangers. 3.15 a.m. The Clangers. 3.30 a.m. The Clangers. 3.45 a.m. The Clangers. 4.00 a.m. The Clangers. 4.15 a.m. The Clangers. 4.30 a.m. The Clangers. 4.45 a.m. The Clangers. 5.00 a.m. The Clangers. 5.15 a.m. The Clangers. 5.30 a.m. The Clangers. 5.45 a.m. The Clangers. 6.00 a.m. The Clangers. 6.15 a.m. The Clangers. 6.30 a.m. The Clangers. 6.45 a.m. The Clangers. 7.00 a.m. The Clangers. 7.15 a.m. The Clangers. 7.30 a.m. The Clangers. 7.45 a.m. The Clangers. 8.00 a.m. The Clangers. 8.15 a.m. The Clangers. 8.30 a.m. The Clangers. 8.45 a.m. The Clangers. 9.00 a.m. The Clangers. 9.15 a.m. The Clangers. 9.30 a.m. The Clangers. 9.45 a.m. The Clangers. 10.00 a.m. The Clangers. 10.15 a.m. The Clangers. 10.30 a.m. The Clangers. 10.45 a.m. The Clangers. 11.00 a.m. The Clangers. 11.15 a.m. The Clangers. 11.30 a.m. The Clangers. 11.45 a.m. The Clangers. 12.00 a.m. The Clangers. 12.15 a.m. The Clangers. 12.30 a.m. The Clangers. 12.45 a.m. The Clangers. 1.00 a.m. The Clangers. 1.15 a.m. The Clangers. 1.30 a.m. The Clangers. 1.45 a.m. The Clangers. 2.00 a.m. The Clangers. 2.15 a.m. The Clangers. 2.30 a.m. The Clangers. 2.45 a.m. The Clangers. 3.00 a.m. The Clangers. 3.15 a.m. The Clangers. 3.30 a.m. The Clangers. 3.45 a.m. The Clangers. 4.00 a.m. The Clangers. 4.15 a.m. The Clangers. 4.30 a.m. The Clangers. 4.45 a.m. The Clangers. 5.00 a.m. The Clangers. 5.15 a.m. The Clangers. 5.30 a.m. The Clangers. 5.45 a.m. The Clangers. 6.00 a.m. The Clangers. 6.15 a.m. The Clangers. 6.30 a.m. The Clangers. 6.45 a.m. The Clangers. 7.00 a.m. The Clangers. 7.15 a.m. The Clangers. 7.30 a.m. The Clangers. 7.45 a.m. The Clangers. 8.00 a.m. The Clangers. 8.15 a.m. The Clangers. 8.30 a.m. The Clangers. 8.45 a.m. The Clangers. 9.00 a.m. The Clangers. 9.15 a.m. The Clangers. 9.30 a.m. The Clangers. 9.45 a.m. The Clangers. 10.00 a.m. The Clangers. 10.15 a.m. The Clangers. 10.30 a.m. The Clangers. 10.45 a.m. The Clangers. 11.00 a.m. The Clangers. 11.15 a.m. The Clangers. 11.30 a.m. The Clangers. 11.45 a.m. The Clangers. 12.00 a.m. The Clangers. 12.15 a.m. The Clangers. 12.30 a.m. The Clangers. 12.45 a.m. The Clangers. 1.00 a.m. The Clangers. 1.15 a.m. The Clangers. 1.30 a.m. The Clangers. 1.45 a.m. The Clangers. 2.00 a.m. The Clangers. 2.15 a.m. The Clangers. 2.30 a.m. The Clangers. 2.45 a.m. The Clangers. 3.00 a.m. The Clangers. 3.15 a.m. The Clangers. 3.30 a.m. The Clangers. 3.45 a.m. The Clangers. 4.00 a.m. The Clangers. 4.15 a.m. The Clangers. 4.30 a.m. The Clangers. 4.45 a.m. The Clangers. 5.00 a.m. The Clangers. 5.15 a.m. The Clangers. 5.30 a.m. The Clangers. 5.45 a.m. The Clangers. 6.00 a.m. The Clangers. 6.15 a.m. The Clangers. 6.30 a.m. The Clangers. 6.45 a.m. The Clangers. 7.00 a.m. The Clangers. 7.15 a.m. The Clangers. 7.30 a.m. The Clangers. 7.45 a.m. The Clangers. 8.00 a.m. The Clangers. 8.15 a.m. The Clangers. 8.30 a.m. The Clangers. 8.45 a.m. The Clangers. 9.00 a.m. The Clangers. 9.15 a.m. The Clangers. 9.30 a.m. The Clangers. 9.45 a.m. The Clangers. 10.00 a.m. The Clangers. 10.15 a.m. The Clangers. 10.30 a.m. The Clangers. 10.45 a.m. The Clangers. 11.00 a.m. The Clangers. 11.15 a.m. The Clangers. 11.30 a.m. The Clangers. 11.45 a.m. The Clangers. 12.00 a.m. The Clangers. 12.15 a.m. The Clangers. 12.30 a.m. The Clangers. 12.45 a.m. The Clangers. 1.00 a.m. The Clangers. 1.15 a.m. The Clangers. 1.30 a.m. The Clangers. 1.45 a.m. The Clangers. 2.00 a.m. The Clangers. 2.15 a.m. The Clangers. 2.30 a.m. The Clangers. 2.45 a.m. The Clangers. 3.00 a.m. The Clangers. 3.15 a.m. The Clangers. 3.30 a.m. The Clangers. 3.45 a.m. The Clangers. 4.00 a.m. The Clangers. 4.15 a.m. The Clangers. 4.30 a.m. The Clangers. 4.45 a.m. The Clangers. 5.00 a.m. The Clangers. 5.15 a.m. The Clangers. 5.30 a.m. The Clangers. 5.45 a.m. The Clangers. 6.00 a.m. The Clangers. 6.15 a.m. The Clangers. 6.30 a.m. The Clangers. 6.45 a.m. The Clangers. 7.00 a.m. The Clangers. 7.15 a.m. The Clangers. 7.30 a.m. The Clangers. 7.45 a.m. The Clangers. 8.00 a.m. The Clangers. 8.15 a.m. The Clangers. 8.30 a.m. The Clangers. 8.45 a.m. The Clangers. 9.00 a.m. The Clangers. 9.15 a.m. The Clangers. 9.30 a.m. The Clangers. 9.45 a.m. The Clangers. 10.00 a.m. The Clangers. 10.15 a.m. The Clangers. 10.30 a.m. The Clangers. 10.45 a.m. The Clangers. 11.00 a.m. The Clangers. 11.15 a.m. The Clangers. 11.30 a.m. The Clangers. 11.45 a.m. The Clangers. 12.00 a.m. The Clangers. 12.15 a.m. The Clangers. 12.30 a.m. The Clangers. 12.45 a.m. The Clangers. 1.00 a.m. The Clangers. 1.15 a.m. The Clangers. 1.30 a.m. The Clangers. 1.45 a.m. The Clangers. 2.00 a.m. The Clangers. 2.15 a.m. The Clangers. 2.30 a.m. The Clangers. 2.45 a.m. The Clangers. 3.00 a.m. The Clangers. 3.15 a.m. The Clangers. 3.30 a.m. The Clangers. 3.45 a.m. The Clangers. 4.00 a.m. The Clangers. 4.15 a.m. The Clangers. 4.30 a.m. The Clangers. 4.45 a.m. The Clangers. 5.00 a.m. The Clangers. 5.15 a.m. The Clangers. 5.30 a.m. The Clangers. 5.45 a.m. The Clangers. 6.00 a.m. The Clangers. 6.15 a.m. The Clangers. 6.30 a.m. The Clangers. 6.45 a.m. The Clangers. 7.00 a.m. The Clangers. 7.15 a.m. The Clangers. 7.30 a.m. The Clangers. 7.45 a.m. The Clangers. 8.00 a.m. The Clangers. 8.15 a.m. The Clangers. 8.30 a.m. The Clangers. 8.45 a.m. The Clangers. 9.00 a.m. The Clangers. 9.15 a.m. The Clangers. 9.30 a.m. The Clangers. 9.45 a.m. The Clangers. 10.00 a.m. The Clangers. 10.15 a.m. The Clangers. 10.30 a.m. The Clangers. 10.45 a.m. The Clangers. 11.00 a.m. The Clangers. 11.15 a.m. The Clangers. 11.30 a.m. The Clangers. 11.45 a.m. The Clangers. 12.00 a.m. The Clangers. 12.15 a.m. The Clangers. 12.30 a.m. The Clangers. 12.45 a.m. The Clangers. 1.00 a.m. The Clangers. 1.15 a.m. The Clangers. 1.30 a.m. The Clangers. 1.45 a.m. The Clangers. 2.00 a.m. The Clangers. 2.15 a.m. The Clangers. 2.30 a.m. The Clangers. 2.45 a.m. The Clangers. 3.00 a.m. The Clangers. 3.15 a.m. The Clangers. 3.30 a.m. The Clangers. 3.45 a.m. The Clangers. 4.00 a.m. The Clangers. 4.15 a.m. The Clangers. 4.30 a.m. The Clangers. 4.45 a.m. The Clangers. 5.00 a.m. The Clangers. 5.15 a.m. The Clangers. 5.30 a.m. The Clangers. 5.45 a.m. The Clangers. 6.00 a.m. The Clangers. 6.15 a.m. The Clangers. 6.30 a.m. The Clangers. 6.45 a.m. The Clangers. 7.0

boys

مكافئ الأصيل

Financial Times Friday March 31 1978

Cottesloe

Lark Rise

by B. A. YOUNG

In *Lark Rise*, Keith Dewhurst has assembled a golden treasury of detail from the first book of Flora Thompson's beautiful trilogy and assembled his material in chronological order to outline the events of a day. True, the seasons tend to fluctuate as the day goes by, but this is as it should be, for the object is to present a complete picture of life at the little North Oxfordshire hamlet we are moving in.

"We," because we are all, audience and players, involved together on the stage. The floor of the Cottesloe has been cleared; there is a cornfield at one end and the inside of the Thims' cottage at the other, and the action is set at or between these two ends. Jerry Pariah's cartload of fish and fruit may suddenly nudge you in the back; or Laura (Flora Thompson's alter ego) chase her brother Edmund hither-skelter through the crowd; or a space clear for a line of reapers cutting the corn with a military drill of their scythes, the time kept by a singer on the flank, or for a bunch of villagers playing a country game in which they will involve some of the audience.

There are, alas, grave disadvantages in such a scheme. On Wednesday, when the audience were fresh they hurried across the floor to assemble at the site for each new scene, forming an opaque barrier for those at the back; when they were tired—and they have to stand without an interval for more than two hours—they sat down on the floor like those wet young people at the Proms. (Where are the thews of yesterday?) I can see what values there are in it for the directors, Bill Bryden and the Sebastian Graham-Jones, but there is ground to be cleared yet.

All the same, the calm and contented atmosphere of the book is genuinely achieved, at any rate for those that have the good fortune to know the books. It is to the credit of the company that they maintain this atmosphere, and do not use the poverty of the village, whose commonland had been enclosed by landlords with-in the memory of its oldest inhabitants, to make any more



Mary Miller and James Grant

political capital than can be extracted from Mrs. Thompson. It is good to remember that people were happy in such times, with no more to amuse them than a visit from the cheapjack or the fishmonger, nursery games for old and young together, gossip in the cottages and songs in the pub. Mrs. Thompson's original, the child Laura, is prettily played by Caroline Embling, her mother by Mary Miller, her little brother by Laurence Hardman, whose excessively tidy clothes are a tribute to the Thims' household.

Two more villagers—the farm bailiff with his cry of "Hi, men! Ho, men!" old

Master Price, Twister, the half-wit, Major Sharman the reluctant pauper, Algy the mystery man, Queerle Macey and her bees, and the rest—are tellingly played in something that must be much like the North Oxfordshire voice so painstakingly described by Flora Thompson. And in a common knack of making folk music—I mean real folk music—not Nashville-sound genuine on their electronic battery of instruments. They also provide a splendid folk-dancer.

There are seats in the circles for those without the staying-power to go to the promenade.

Ambassadors

Let the Good Stones Roll

by STUART ALEXANDER

You cannot beat the real thing and the real Mick Jagger was such a spectacular example of strutting aggression and arrogant bravado that however close a singer may come to reproducing the raw urgency of his voice he would need to be a brilliant and very athletic mimic to copy the stage delivery.

Louis Selwyn makes a brave attempt in the latest attempt by theatre impresarios to cash in on a known group of fans left stranded by their idols, but too often his simulation falls over the edge into parody.

Let the Good Stones Roll was originally produced at the Edinburgh Fringe Festival in 1977 and the atmosphere of makeshift has lived on. Somewhere there is a core of sincerity trying to break through but the script is so trite and the metaphysical meandering that it is difficult to tell when the tongue is meant to be in the cheek and when it is not.

As a rock revue it is saved by the hit songs of the Stones but the whole show lacks drive and momentum, becoming disjointed and sketchy. The comedy relief, which has little or mainly nothing to do with the developing career of the group, is welcome but also serves to show up more starkly the very thin story line contrived by author Rayner Burton.

He concentrates on the group's drug problems and their part in the death of Brian Jones, capably played by David Grettou who comes over even better as an American stand-up comic in a scene which continues to be funny even though it is also intended to ridicule the criticisms of the older "generation."

But the attempt to bring back Brian Jones in scaphic robes while the rest of the group performs a dream-sequence ballet falls down badly.

Living legends have become rather devalued of late as publicity machines have run out of superlatives, but as the play itself says so forcibly, the Stones never wanted to be legends or anything other than a good rock band, and the only star among them was Jagger.

The attempted addition of pop culture produces a dialogue on a par with the worst interviews with embarrassed football players.

No doubt some of the faithful will make the pilgrimage to this little theatre off St. Martin's



Louis Selwyn as Mick Jagger

band, and the only star among them was Jagger. And even if they are disappointed with the lack of ambassadoria setting too incongruously middle-class for a rock show, they may at least console themselves by rushing home to the record player and a rendering of the real thing.

Radio City

Leon Russell

by FRANK LIPSUS

New York's famous movie house, 6,000-seat Radio City Music Hall, is living out its last days as a rock music venue before a scheduled final closing in April. The beautiful art deco hall, the largest cinema in the world, would never be mistaken for the Rainbow Theatre in North London. Even the young crowds set with respect in the impressive setting designed in the early '30s with a sunrise motif, carried out as a series of arches emanating from the 50-foot high proscenium arch and projected on the walls and ceiling. The lobby has a grand staircase and gives a three-storey view of small people, large sculpture and metal appointments that rival any but the best entertainment hall can offer.

Good as Leon Russell is—and stylish as he appears compared to most pop music performers—he was much overshadowed by the ball in his recent week-end appearance there. Going through

his familiar repertoire with his wife Mary sharing the stage at her own piano, Russell was not only successful when he slowed the tempo of the songs to let the ball carry his plaintive voice. But he insisted on quickening most of the songs, as though excitement can be generated by two people on stage shouting their hearts out. It is a mistake, especially on songs like "Song For You," which got a relentless rhythm tacked on to it in a distracting, heartless way.

Mary's voice, though greater in range than her husband's, lacks his expressiveness. She did a great job on "Mighty Clouds of Joy," but otherwise complemented him at best and usually only accompanied him, making the huge stage seem only marginally smaller.

Unfortunately, it swamped them both. Being bathed in sunbeams and brass requires more showmanship than sitting in front of a piano playing old music with a new beat.

Using Radio City Music Hall for rock music concerts is no more nor less venal than turning state homes into amusement parks. Though the hall was designed for the medium of greatest commercial popularity of its time—the movies—it has an elegance that enhanced the family entertainment image. Now, rock music just looks a little tackier by the company it keeps.

Ramour has it that Radio City Music Hall will not really close after the Easter show, supposedly its last. The announced closing was meant to prompt public support for the theatre, now long past financial viability. So controversy clouds the brass sunbeams, as New York City, suffering financial strains of its own, decides whether to keep in some money to keep open the "Showplace of the Nation," even for the likes of rock stars who at least keep the lights burning and the amps blaring.

Cinema

Emotional Truths

by NIGEL ANDREWS

Al No Corrida Gate Cinema Club
That Obscure Object of Desire (X) Academy 3
Take It Like A Man, Ma'am! ICA

Of all the cant words employed by film publicists in this country perhaps the most hypocritical is "adult." There is seldom anything discernably adult about the films so described: films rejoicing in titles like *The Rust Is Ripe* or *The Lustful Vicar* or *New Black Emmansville 103*, and portraying human sexuality with much the same glibly, conspiratorial prurience as schoolboys telling dirty stories in the dormitory. So expunge from your mind notions of "adult"ness learned from Soho movie posters: the first truly adult film about sex this country has seen arrives this week-end and is called *Al No Corrida*.

It is adult because director Nagisa Oshima has taken the time-honoured Japanese tradition of erotic art—a tradition that accepted sexuality as a human activity no more shameful, and considerably more delightful, than eating or drinking—and shown it locked in passionate and tragic conflict with the new puritanism of the 20th century. The true incident on which the film is based took place 40 years ago: when the shadows of war, imperialism and dictatorship were about to darken Japanese society, and when on a more global scale the onset of the new political dogmatism—then of the Right, now of the Left—was about to begin its work of sacrificing individual happiness to the "happiness of the greatest number."

Oshima's film is a hymn to the former. His heroine is modelled on a Japanese geisha girl who was arrested and put on trial in 1936 for having murdered and executed her lover. Her story was that she did it with his complicity: in the throes of a sexual love from which there was no turning back and to which (with his consent) death was the only consummation. In Oshima's film, the sado-masochistic elements of the relationship are clear from the beginning and the girl (whose name, not unsuggestively, is Sada), constantly threatens the man with punishment if or when he should ever return to the wife he has left, and if or when he should ever stray in his affections for her.

The film is a sequence of love scenes presented so frontally and explicitly that the sensibilities for titillation quickly exhaust themselves and the audience starts to look at the film simply as a film: as a raw, powerful and very Japanese study in emotional-as-rational. *Al No Corrida* means *Corrida* (the bullfight) and something like a bullfight in the way the man and the girl alternately tease, caress and gore each other; and in the way that the moment of supreme passion and contact between the two becomes also the moment of their mutual destruction. The language of sexuality informs the whole film (even an eating scene is given a whimsical piquancy by what the

characters do with the food before consuming it), and Hideo Ota's colour photography gives a ripe, sensual sheen to the early scenes of the film, a burnished, elegiac quality to the lust. The moral leaps made by Oshima in the film may be too swift, high and far for many people. He vaults right over the question of sexual mores per se—the film simply says, all sexual activity is permissible when agreed upon by the participants—and pushes broader arguments of moral acceptability to the very limits. If we truly respect individual freedom, is there anything we should forbid between consenting adults, up and including the taking of life? The word "consenting" is vital. Oshima repudiates the word Murderer when applied to his heroine precisely because her "victim" was willing. *Al No Corrida* is a film about the ultimate freedom: the freedom to choose one's own moment to die. Not surprisingly, the film has ruffled a few feathers at the recent festival at Cannes and Berlin in 1976, in London last year. Those who enter Oshima's world must abandon diffidence, scepticism and received morality: for this is the world of Romantic Absolutes. Take an open mind and go and see it.

Luis Bunuel's new film *That Obscure Object of Desire* is another dossier from the files of *l'Amour Fou*: one with no roots whatever in historical veracity but with an emotional truth just as powerful as Oshima's. Many critics seem to think that the film is "not one of Bunuel's best." I assure you otherwise. It is the most ingenious allegory of human wrong-headedness Bunuel has given us since *Viridiana*. It is also the first film I have seen to spy a link between political terrorism and sexual provocation; to show that these activities are but two sides of the same pathological coin, both perverse exercises in emotional blackmail.

An elderly Frenchman (Fernando Rey), resident in Spain, is deciphering the train from Seville to Paris. His departure has been precipitated partly by a sudden outbreak of terrorist atrocities in the town, partly by the emotional discomposure of a broken love affair. He tells the story of the latter (his back) to a group of sympathetic fellow-travellers on the train. The young woman he loved, formerly a serving girl in his home, had come to live with him after some discreet wooing, not unmixed with financial persuasion. Unfortunately, once arrived, she seemed devoted more to her chastity than to him, and he could find no way to consummate their relationship. Sometimes it seemed that she was deliberately hurting and flouting him (as when he discovered her (as a friend in her room), the most sometimes that she was being cruel only to be kind (as when working in Europe? or, like Fred Goldbeck, see Messiaen as she was only "testing" his love). Finally a reconciliation of sorts was achieved; but there was still time for tragedy to intervene. This story-within-a-story of old man's infatuation is given an inspired Bunuelian twist by the fact that the girl is played, in chosen, from widely-spaced alternating scenes, by two differ-

ent actresses. One (Angela Molina) is earthy and impetuous; the other (Carole Bouquet) is poised and calculating. The device is brilliant. It makes the man's crazed love seem a folly almost independent of the specific object (as sexual love often is), and it teases the audience along with the suspense of wondering whether the girl is a scheming villainess or merely a tart-without-a-heart.

There are wheels within wheels of subtlety in the film. The initially mystifying relevance of the terrorist sub-plot becomes clear when we perceive with Bunuel, that the credo of terrorism is the same as the credo of sexual provocation. Both promise a Utopia after a time of pain and trial, both predicate their cruelties on the principle "Pain now, live later." Bunuel spoofs the Messianic fanaticism of modern-day ter-

roists by calling this particular branch the Revolutionary Army of the Infant Jesus; and those puzzled by the last-scene eruption on to the soundtrack of the love duet between Sigmund and Sieglinde (from Wagner's *Waldesrausch*) might remember that that too was the prelude to the birth of a dubious Messiah—Sieglind's Arvan.

Bunuel has no time for Messiahs or heroes; and even less time for the crusading groups that try to pave the way for one. The only Utopia he wants is one in which individual man can pursue his passions unharnessed and unharrassed by society. Bunuel's anarchy is anarchy with a human face. And also with a comic one. The film is packed with surrealist throw-aways à la *Discreet Charm of the Bourgeoisie*: a bucket of water emptied over a young lady's head on a railway platform, a dwarf who introduces himself as a

Professor of Psychology, a large, mysterious sack carried around (we never discover what it contains) by sundry characters during the film. The film is puzzling, funny, ingenious, provoking; and the more you discover, the more you want to go on looking.

At the ICA there is a winsome Women's Lib comedy from Denmark called *Take It Like a Man, Ma'am!* I applaud most of what the film has to say about the stereotypes of sexual and domestic role-playing, but I wish it didn't take so long to say it or say it with such witless, village-hall attempts at satire. It is significant that the film was made by a group ("The Fed Sisters Collective") and not by an individual. The first thing people often lose when they band together and sink their temperamental differences in a common ideology is their sense



Elko Matsuda in "Al No Corrida"

Festival Hall

Messiaen

by DOMINIC GILL

On Wednesday night the BBC Symphony Orchestra under Serge Baudo devoted the whole of their programme (which was also broadcast on Radio 3) to the music of Olivier Messiaen, a salutation to the composer in his 70th birthday year. It was no purpose of the evening to propose any measure of relative "greatness." We could agree with Hugh Wood's warm but mildly cautious assessment in our programme note of Messiaen as "the most distinguished composer now working in Europe," or like Fred Goldbeck, see Messiaen as the man "who made the avant garde palatable to the world's Puccini-lovers" (no mean time for tragedy to intervene). But as a salute to the man whose music has been a well-played, an orchestral inspired Bunuelian twist by the fact that the girl is played, in chosen, from widely-spaced alternating scenes, by two differ-

life, spanning nearly half a century, the very capable, rather straight-laced soloist, not terribly convincing: would a more explicit vulgar reading, perhaps, an irre-sistible shine of lip-gloss on the notes, have drawn us better?

The evening's two substantial works came in the second half: a secure, fine-grained performance of *Oiseaux exotiques* with Yvonne Loriod as piano soloist; hard, brilliant sequence of *Les Femmes d'Alger*, which each facet diamond-cut, and Messiaen's masterpieces of it middle, 1960s, *Et exspecto resurrectionem mortuorum*—its form and presence ("destined for vast spaces... churches, cathedral and even in the open air on high mountains") diaphanous, and which Messiaen only by the familiar surmount admirers merely find so hard to stomach. Felicity Palmer was attendants of the Festival Hall

Chichester Cathedral Festivities

Local authorities which did not do enough to support arts festivals were criticised yesterday by Mr. Kenneth Robinson, chairman of the Arts Council.

"So many local authorities leave the greater part of the financing to the energies of the organiser in raising money from business sponsors, generous individuals and the Arts Council," he said.

Mr. Robinson was speaking at a Press reception to launch the Chichester 903 Festivities which will centre on Chichester Cathedral from July 8 to July 22.

The Chichester Festivities began in 1975 to mark the 900th anniversary of the Cathedral, and the percentage of income achieved through the box office in the last three years is higher than that of any other major arts festival in England, with one exception.

Mr. Richard Gregson-Williams, the festival director, is keen to exploit the acoustics of the cathedral, and envisages the festival acquiring a reputation for the presentation of large scale choral and orchestral works.

This attitude is reflected in the opening concert in which the trumpeters of the Royal Military School of Music, Kneller Hall, appear with the Royal Philharmonic Orchestra under Sir Charles Groves, in two fully-staged performances of Britten's opera *Noyes Fludde* and in a performance of Beethoven's "Choral" Symphony with the Liverpool City and Orchestra conducted by John Eliot Gardiner.

Other highlights include the first British appearance of the Berlin Philharmonic Wind Octet, concerts by the Academy of St. Martin-in-the-Fields, the London Symphony Orchestra conducted by Eduardo Mata, and an unusual collaboration between Sir Khan (sitar and surbahar) and Christopher Hogwood (virginals).

BP sponsor music at Haddo House

Two of the most famous, although seldom heard, oratorios composed by Sir Edward Elgar are to be given performances at Haddo House, near Methlick, Aberdeenshire, through sponsorship from BP Petroleum Development.

The two oratorios—*The Kingdom and The Apostles*—will be performed on May 13 and 14 by the Haddo House Choral and Operatic Society, accompanied by a 60-strong Haddo House Concert Orchestra, and six soloists in the leading parts.

UNION CORPORATION LTD.

(Incorporated in the Republic of South Africa)

The Chairman, Mr. E. Pavitt, reports to shareholders

With the depressed South African economy showing few signs of an upturn during 1977, the group industrial interests did well to earn improved profits which more than compensated for falls in dividends received from our mining investments. In the circumstances the consolidated net profit of R37.7 million (62 cents per share) represents a satisfactory outcome when compared with that of R33.3 million (55 cents per share) for 1976.

GOLD AND URANIUM

In spite of the restriction of pay increases to 5-6 per cent, working costs continued to rise at almost double the rate of the consumer price index, due mainly to the influx of largely untrained black labour, coupled with high labour turnover, the introduction of the eleven-shift fortnight and disproportionately high increases in certain key costs.

The gold market continues to strengthen. Fabrication demand and sales of coins exceeded the supply of newly mined metal for the second year in succession. The speculative and investment buying associated with the weakness of the dollar has however brought a degree of instability into the market and some reaction may occur later in the year.

After a prolonged and costly exploration programme we are sufficiently encouraged with the results obtained to be in the final stages of evaluating a potential uranium/gold mine in the Orange Free State, south of St. Helena Gold Mines. If a decision is made to bring the project into production a very substantial cash investment will be required.

PLATINUM

For most of 1977, platinum was traded below producer price and only towards the end of the year were there signs of a revival.

Impala Platinum was able to maintain its planned production rate of 700,000 ozs. of platinum a year.

INDUSTRIAL

Our industrial interests are predominantly in the paper, packaging and engineering fields where market conditions were uniformly depressed and opportunities for increasing turnover or raising prices were limited. Improved profits were therefore possible only as a result of rationalisation, containing costs and improving efficiency and productivity. In these circumstances, it is a credit to all the group's industrial interests that earnings overall were up 13 per cent on 1976 figures.

Prospects for 1978 must be seen against the continuation of poor economic conditions and a number of major uncertainties. Despite this, I believe that the strong enterprising management teams heading our industrial subsidiaries will make the most of opportunities and will take full advantage of any improvement in the South African economy.

OUTLOOK

Loan financing plays a major role in the three new mining ventures with which we are currently involved and in respect of two of these we have had to provide substantial guarantees. This is becoming a standard pattern in modern mining finance and until there is some general revival in the world demand for metals and minerals, the existence of such commitments inhibits further new projects or the expansion of existing ones.

South Africa's abundance of natural resources and possession of technical and entrepreneurial skills, enable us to make the economic progress needed to continue to improve the standards of the whole population.

To make the most of its opportunities, given the special problems of its diversity of races and cultures, South Africa will require a considerable degree of courage and imagination; also the understanding and enlightened self-interest of the world business community.

	Rands Million	
	1976	1977
Income after taxation	33.3	37.7
Dividends	21.6	23.2
Net Assets	473.3	481.7

Copies of the Annual Report may be obtained from the London Secretaries, Union Corporation (U.K.) Ltd., 95 Gresham Street, London, EC2V 7BS, (Quoting Ref. U.C.).

FINANCIAL TIMES

BRACKEN HOUSE, CANNON STREET, LONDON EC4P 4BY

Telegrams: Finantime, London FS4. Telex: 585341/2, 585387

Telephone: 01-248 8000

Friday March 31 1978

New watchdog on trial

The Department of Trade and the Foreign Banks in London agreed 18 months ago that the security markets by some body similar to the U.S. Securities and Exchange Commission was not necessary and that a more effective system of self-regulation would be acceptable. It has now, therefore, given its approval to the arrangements worked out by the Bank of England, in consultation with various City associations, which involve the establishment of a Council for the Securities Industry. The authority of this Council will spring from the voluntary recognition by the various City associations, which will be in the hands of a Markets Committee, while the Take-over Panel will continue to operate and enforce the code relating specifically to takeover practice. But it appears that the model for the new and larger operation, may be given a wider role in investigating alleged breaches of the various codes to be drawn up by the CSI and recommending appropriate action.

Yesterday's statement about the chairmanship, financing and operation of the Council, leaves a number of questions still unanswered. The framing of codes of conduct and the drafting of recommendations about U.K. and EEC legislation will be in the hands of a Markets Committee, while the Take-over Panel will continue to operate and enforce the code relating specifically to takeover practice. But it appears that the model for the new and larger operation, may be given a wider role in investigating alleged breaches of the various codes to be drawn up by the CSI and recommending appropriate action.

Self-discipline
None of this is to suggest that the principle of self-regulation is not desirable in itself if it can be made to work. Statutory regulation of the markets is inherently slow, clumsy and expensive. The setting-up of a body like the SEC is a last resort, and admission of failure and it is to be avoided if that is at all possible: the very fact that a Labour Government came to this conclusion after two years of cogitation is itself strong support for it. The Take-over Panel, moreover, though admittedly working in a more restricted field and among a small collection of professionals, shows how much self-regulation is capable of achieving. But the lack of urgency with which the CSI has been set up and the secrecy in which the preliminary consultations were held are not altogether encouraging. The new body deserves to flourish. We hope it will, as its mode of operation becomes clearer than it is at present.

Lay members
It is not clear, however, and probably can only become clear in practice, when the CSI will initiate investigations of its own and when it will decide that breaches of its codes can be dealt with "more appropriately" under the domestic codes of its institutional members. This raises the wider issue, that the extent to which individual codes of professional conduct operate at present differs widely from one association to another and that the ability of associations to discipline recalcitrant members is also variable. Not all the associations concerned with security markets have yet agreed to participate in the work of the CSI — it is proposed to invite representatives from

Incentives for productivity

EXT WEEK employees in British Leyland's car factories will be voting on whether to approve the introduction, on a 18-month trial basis, of incentive payments tied to higher productivity.

In British Steel, following an agreement reached between management and unions at national level in February, work measured incentive schemes are being introduced or extended in a number of plants, because of over-manning and inefficient work practices (many which are as much the fault of management as of the workers), productivity in British steel plants is well below the levels achieved in comparable Continental factories. This point was underlined forcibly in the Central Review Staff report on the motor industry, published in 1975: it has been highlighted in a study recently undertaken by Leyland management unions. The question is at can be done about it and, particular, what contribution is expected from the re-introduction of incentive payments.

Work rates
Until 1971 most of the Midlands car factories operated a piecework in which pay related directly to individual effort. But the system was allowed to fall into disuse not only was the negotiation of new piecework rates a source of endless arguments and disputes, but there were anomalies between different groups of workers. At Leyland decided to return to measured day work. Ford and Vauxhall had been operating for many years, the preparation for the introduction of the new system inadequate: foremen and supervisors were not trained to administer it: the price that had to be paid to secure acceptance of the arrangements, particularly in the case of Ford, was excessive. Productivity fell as a result of the change.

At the Ryder Committee at the problem in 1975 felt that the company was more time "to work out" standards of productivity as a basis for the potential for increasing productivity. They must overcome.

The little war that went very wrong for Begin

BY DAVID LENNON, Tel Aviv Correspondent

MR. EZZER WEIZMAN, the Israeli Defence Minister, went to Cairo yesterday on what was a desperate last minute bid to save not only President Anwar Sadat's peace initiative, but also the Government of Mr. Menachem Begin.

The journey bears all the hallmarks of the Begin Government's method of operation: it was hastily prepared, based on hope rather than careful planning, and the long-term political consequences were given less thought than the possible short-term benefits. The Government is deep in trouble both at home and abroad. While President Sadat has shown how unrealistic is the Government's foreign policy, the Israeli Prime Minister and his cabinet have managed to display almost incredible ineptitude on a number of other issues. As a result, Mr. Begin is under challenge from within his cabinet, is being castigated by a revived opposition, and is facing growing public demonstrations calling for his replacement.

The rifts within the cabinet are so serious that Mr. Begin's party has quickly tabled an amendment to the Knesset (Parliament) this week which would empower the Prime Minister to dismiss an individual minister without the whole cabinet having to resign, as is the law at present.

Mr. Begin's intentions are plain. He plans to try to restore order by a cabinet shuffle, though it is not yet clear which of the warring factions he will get rid of. But it is not at all certain that a house cleaning will save his own, weakened position.

Mr. Begin's popularity has been slipping steadily. The most recent public opinion poll showed that 59 per cent of "Israelis" thought that he was doing a good job as prime minister, as against 79 per cent in December. The main cause of disenchantment are the dead-end in the peace talks; the sharp confrontation with the U.S. rifts within the cabinet; the incursion into Lebanon; and Mr. Begin's choice of an almost unknown man as his candidate for the presidency.

Among the welter of comment about Israel's reaction to President Sadat's peace initiative, it was the Labour Party leader, Mr. Shimon Peres, who on Wednesday pointed to the key problem: "The Government has failed to understand the historic opportunity presented by President Sadat's visit to Jerusalem on November 19. The Israeli peace plan offers withdrawal from the bulk of Sinai, but Israel insists that the Jewish settlements built on occupied Egyptian territory since 1967 must remain even once the territory is returned to Egypt. This issue was raised only after the offer of withdrawal had been made, as was the demand that Israel should retain the three air bases it has built in the desert."

Most of the problems surrounding the return of Sinai, however, do appear to be surmountable—even the question of the settlements. It was the fear that Mr. Begin might be willing to let the settlements wither away, that led the ebullient Minister of Agriculture, Mr. Ariel Sharon, to start more land development work in Sinai, even as the Government was talking of withdrawal.

Slap in the face

The Egyptian leadership took this as a slap in the face, the American administration was angered, and many Israelis began to doubt the Government's desire for peace.

The real stumbling block to progress was, and still is, the West Bank and the issue of the Palestinians. Israel has refused to withdraw from the West Bank, and the most it was prepared to offer residents there was a form of local autonomy under continued Israeli military suzerainty. That ignored Palestinian aspirations for a homeland, and ignored the 1.5m. Palestinians living outside the territory controlled by Israel.

When the peace negotiation quickly reached stalemate, the Americans stepped in to try to bridge the gaps between the two sides. Despite two rounds of shuttle diplomacy by the U.S. Assistant Secretary of State, Mr. Alfred Atherton, and visits to Washington by both President Sadat and Mr. Begin, no progress has been made.

It was Israel's refusal to budge from the original peace plan which led to the confrontation in Washington last week between President Carter and Mr. Begin. Neither American blandishments nor hints of pressure moved Mr. Begin to amend his fundamentalist view that Israel must hold on to all of the biblical Land of Israel for reasons of history and of defence.

The Prime Minister, returned from Washington a political crisis which threatened to topple him within days. The public was worried about the loss of American support, and Mr. Weizman had called for a "national peace government," a clear challenge to Mr. Begin to modify his position or resign.

But a carefully timed leak about an American official calling for Mr. Begin to be replaced rallied the Cabinet and the country behind the Prime Minister. All felt it their duty to show that Israel was no banana republic whose leader could be withdrawn by grace and favour of the U.S. The Davar newspaper claims that the story was planted by the aides of Mr.



Mr. Begin with President Carter in Washington last week: Israelis are worried about the loss of American support.

Moshe Dayan, the Foreign Minister; the paper sticks to its story, despite denials from the Foreign Ministry.

Mr. Begin gained a temporary respite from the pressures building up around him. Mr. Weizman's call for a new Government was neutralised and he was made to look less than wholly loyal. He was also abandoned by those ministers who had been expected to back him. But the rifts within the Cabinet have not been healed. Mr. Weizman, still fairly broad, if somewhat fainthearted support from the ministers of the Democratic Movement for Change, from some of the National Religious Party ministers, and probably from the majority of the Liberal Party ministers.

This group represents about half of the Cabinet and believes that Israel should be more flexible in the search for peace. It is opposed by Mr. Dayan, Mr. Sharon, Mr. Begin's Herut Party, and a few other ministers.

The Liberal Party also has another fight with Mr. Begin. He refused to back its candidate for the mainly ceremonial post of president. Instead Mr. Begin produced an unknown scientist called Dr. Yitzhak Chavet. The total lack of enthusiasm shown for Mr. Begin's candidate forced his withdrawal, which was a blow to the prestige of the Prime Minister. But Mr. Begin still refused to back the Liberal

candidate and thus opened the way for a Labour Party man to become the next president. The key issue, however, remains that of peace.

The score card is even. Mr. Weizman won a victory when he forced a halt to settlement in the occupied territories after threatening to resign. Now his opponents have claimed their win by torpedoing his call for a National Peace Government.

Neither side is prepared to give way, and it will be up to the Prime Minister to decide which side must go when he changes his cabinet. It will be a hard choice for him. Emotionally he supports the hard line camp of Mr. Dayan and his allies. But he knows that Mr. Weizman has growing public support, and appears to be the one Minister whom President Sadat is really happy to talk to.

Chances of success

Because of that Mr. Begin decided to send Mr. Weizman rather than Mr. Dayan to Cairo to try to revive the direct negotiations. His calculation was complex. He knew that the defence Minister had the best chance of winning some concessions from the Egyptians. At the same time he knew that the chances of success were slim indeed.

If Mr. Weizman succeeds, then Mr. Begin can claim much

of the glory: if he fails, it will be easy to place a large decree of the blame onto Mr. Weizman, undermining his standing in public favour. If the Prime Minister chooses to dump the Defence Minister, he can also accuse him of letting the attack on Lebanon get out of hand.

Public opinion caused by the revenge for the terrorist attack on a bus north of Tel Aviv almost three weeks ago has faded. People are beginning to question the entire concept, as well as the execution, of the invasion of southern Lebanon.

The heavy attack on Lebanon was supposed to have had two objectives: the short term, tactical aim was to create a six miles deep buffer zone along Israel's northern border. The strategic aim was to destroy the military power of the Palestine Liberation Organisation. The first failed because the buffer zone does not provide an effective answer to long range shelling or rocket attacks of Israeli territory. The second failed because the conventional frontal attack gave the Palestinian fighters time to retreat ahead of the advancing column.

Instead of having destroyed the power of the PLO, Israel has to negotiate indirectly with Mr. Yasser Arafat for a Palestinian ceasefire. The occupation of south Lebanon has brought the PLO back to centre stage, the last thing the Israeli Government wanted.

What is even more worrying

to the public in Israel, are the reports of tens of thousands of refugees fleeing northwards deeper into Lebanon, and the destruction wrought in many villages of south Lebanon has shocked many people.

It is clear that the Government did not give enough thought to what would happen once it had invaded south Lebanon. No real consideration appears to have been paid to how to withdraw, and who would fill the vacuum once the Israeli troops had gone. The Government does not seem to have taken account of the possibility of a U.N. force moving in. In effect Mr. Begin has brought about a situation which no one in Israel is happy about.

High point of popularity

It was Mr. Begin's first war as Prime Minister, and a dirty little war it turned out to be. Mr. Golda Meir was forced to resign as Prime Minister after the Government's mishandling of the 1973 war. Last year the Labour Party paid the delayed price for that war and for the squabbling between ministers in Mr. Yitzhak Rabin's Labour Government. From a high point of popularity only a few months ago, Mr. Begin now appears to be headed down the same road, less than ten months after assuming office.

Sending Mr. Weizman to Cairo was the gamble of a desperate man, striving to rescue a deteriorating situation. It appears to be fully to send a minister on such a mission when Israel is offering nothing new. But Mr. Begin believes that the only logical explanation for Mr. Sadat's visit to Jerusalem in November was that the Egyptian leader desperately needed peace, at virtually any price.

In the unlikely event of Mr. Begin proving right, he will have not only have rescued his position and his Cabinet, but may even have set the Middle East on the road to peace, since if Egypt makes a separate peace Israel will have neutralised its most powerful enemy. That would make an Arab military victory in any new round of fighting even less probable than it already is.

But if his bid fails to break the deadlock in the peace negotiations, then Mr. Begin will come under increasing pressure to step down. The pressure will come not only from the Carter Administration and the West in general, but from within Israel. The Israelis are tired of wars and most will find it hard to forgive a man who has thrown away the best chance of peace which Israel has ever been offered. Few want to retreat any further into a state of siege.

MEN AND MATTERS

Rotary holds tight

Rotary International remains a bastion of male exclusiveness but, in these days of "equal rights", might this not be about to change? The question was raised yesterday by a report from Los Angeles that the Duarte suburb branch of the Rotary Club is to appeal to the California Superior Court against its expulsion from the U.S. Rotary Club.

The expulsion was for accepting three women as members. When I asked John Jackson, Secretary of Rotary International in Britain, about this, he said that the expulsion had broken the provisions of the constitution — though he added that the breach had been the admission of women had something to do with the extreme measure taken by the Rotary movement.

As a voluntary, non-profit organisation, Rotary is exempt from the provisions of the British Sex Discrimination Act of 1975. Jackson told me that women had been formally excluded from the Rotary movement since at least 1922. Last year Rotary's Council of Legislation, meeting in San Francisco, had overwhelmingly rejected three motions to allow women to join.

Jackson, who had been in the audience had cheered at the defeat of these motions. It had been a "high level of debate, without acrimony," he told me, with the clinching argument apparently being that women had their own comparable organisations. "Scripturists," "Altruists International," "Zonta" and the "Association of Business and Professional Women's Clubs" were among those he listed. And when could Rotary reconsider its position? Not before point may be true but Rio mug-



the next Council of Legislation. Feminists will not be pleased to hear that that is not due until 1980.

Travel tips

There must have been some heart searching among the entourage of President Carter before they set out on their four-nation goodwill tour this week. The booklet they were issued on the countries they would be visiting makes it seem that they would be dicing with disease or death every time they sip water or milk, munch an apple or crunch a lettuce leaf. The booklet gives the most graphic accounts of life in Brazil, where Carter was yesterday, and unfortunately fell into local hands. The Brazilians were none too pleased with what they read. It was not just standards of food hygiene, the spokesman told me that tolerances in the new notes were no different to those in the old ones. He added: "Precise size is not material to control forgery and in any case don't

gers are all a good foot shorter than their American visitors. In any case, the Brazilians asked, who are the inhabitants of Washington and New York to criticise us on this point?

But the least delicate touch is perhaps that relating to security. Do not say anything confidential on the telephone, the Carter circus is told, "and beware of loose talk in your rooms unless these have been checked for bugs. 'If this is good luck, what is the alternative?' one Brazilian asked."

Nota non bene

So now we know why we found the surface area of the new pound note was only 81.9 per cent of the old one, whereas the masters of the Treasury claimed it was 83.5 per cent. Apparently the size as well as the value, alas, is a variable—and the Bank of England say that to some extent it will stay that way.

Several clearing banks have been complaining to the Bank that cashpoint pay-out machines have been causing hiccup by the new note. But the result of unofficial talks between the Bank and the banks has been that the banks are going to try to clear up the problems at their end.

A spokesman of the Bank of England tells me that they will be putting some 800m. new notes in circulation in the 12 months from the recent "launch date" of February 9. He hopes they will not have to be folded so much by the public and thus will last longer than the ten months which the old notes averaged.

When I asked about the 3mm size variations in the new notes reported by the banks, the spokesman told me that tolerances in the new notes were no different to those in the old ones. He added: "Precise size is not material to control forgery and in any case don't

newspaper pages vary in size." Touche.

Express delivery

An embarrassed BP Board yesterday had to abandon its planned embargo until today on any Press coverage of the group's annual report. The GPO jumped the gun and delivered 2,000 copies to shareholders — including a number of surprised stockbrokers — ahead of the carefully planned March 31 release date. So now the Post Office could be receiving an unprecedented complaint — that it delivers too fast.

What could explain this over-zealousness? Nothing to do, surely, with the presence on the BP Board of Mr. Tom Jackson, General Secretary of the Union of Post Office Workers.

Down to earth

A breathtaking technical advance is about to hit British agriculture: farmers can now measure how their grass is growing more accurately than by the age-old method of looking over the fence. Drawing on New Zealand expertise, the Milk Marketing Board's special Low Cost Productivity Services unit pooled its brain power with the Grassland Research Institute and Fisons of North Wyke to produce the Grassmeter.

This revolutionary device consists of a "horizontal plate which slides up and down a vertical rod through its centre." Some complicated instructions then follow: "The foot of the rod is placed on the ground and the plate is held up by the grass beneath." All you have to do is "make about 30 random readings in a paddock and calculate an average score for that area of grass." What do you say to that, Farmer Giles?

Observer

FINANCIAL TIMES SURVEY

Friday March 31 1978

COMMUNICATIONS

Communications 78, an international exposition covering communications equipment and systems, will be held at the National Exhibition Centre, Birmingham, on April 4-7.

New developments in communications networks and computer technology are providing great opportunities for both manufacturers and public telephone authorities. But unless extra demand for services can be created a large number of jobs in the industry will be lost.

THE REVOLUTIONARY effect which computers are beginning to have on communications networks are probably equalled by the less generally understood impact of communications on computer technology itself.

Both trends are, indeed, intimately related, and the so-called "convergence" of computer and communications technology is beginning to be reflected in the structure and organisation of manufacturing companies.

A very obvious symptom is the highly successful move by International Business Machines into the market for Private Branch Exchanges (PBXs), when it recognised and exploited the fact that the key to future telephone switching systems will be computer control.

Skills

At the same time, telecommunications manufacturers are finding that the development of programming skills is one of the most vital requirements for their future. Indeed the essence of switching networks now being developed is a hierarchy of programs of Byzantine complexity.

The programs controlling a medium-sized exchange network may consist of some 200,000 to 300,000 separate instructions. Some of these instructions can, in many systems, interact with each other in unforeseen ways, the skill needed in the initial design is of a very high order indeed. Even routine maintenance will increasingly require engineers with complex programming (software) skills.

Furthermore, the manufacture of telephone switching equipment is beginning to appear much more like the making of computers, as the old electro-mechanical components are replaced by semi-conductor processors and memories. And because of the complexity of SPC exchanges, computers are needed at all stages of production to help with design, quality control and testing.

The converse trend has been for communications links to create over-increasing networks of computers. One consequence has been for the idea of vast central computers to give way to more flexible concepts of "distributed intelligence." A large number of regional or local mini-computers can be connected by high speed data links to provide computing power at the place where it is needed, for example in branch offices of a company.

The local computers can deal with all the immediate transactions without reference to "headquarters." Hourly or daily totals can then be transmitted to update the central files. Any particularly difficult task can be referred to the main computer via the data link.

Distributed networks can therefore be a much closer analogy to decentralised company structures than a monolithic central data processor, which can have the effect of removing information, and therefore responsibilities, from a company's outer divisions. The concept of distributed intelligence followed necessarily from greatly improved performance and lowered cost of itself increasingly using digital

small computers but it would not have been possible without the provision of a high quality communications network capable of carrying the very rapid stream of signals generated by computers. These links are generally leased permanently by organisations to connect their various offices. In telephone authorities,

the quality of the lines is adequate, it is possible therefore that data and coded speech could use the same paths. The whole future of data communications in Europe is now under study by the Eurodata Foundation representing 16 telephone authorities.

techniques to allow channels to carry a greater density of traffic and to improve quality by excluding unwanted "noise" from the signals. High quality is particularly important for digital transmission which consists of a series of Morse Code-like bleeps. Unwanted noise may obscure some of the bleeps and

transmission between towers, like the Post Office tower in London, and most recently by waveguide. A waveguide is a hollow tube about the same diameter as a car exhaust buried in the ground.

Microwaves squirted down the tubes can carry about 500,000 simultaneous conversations compared with about 16,000 for a bundle of co-axial cables.

Optical fibre, on the other hand, uses a completely different principle. A small laser light source or a light emitting diode (similar to those used in calculators) provide a pulsing signal. The pulses are carried by a hair-thin glass fibre. Optical fibre has several advantages. First, its capacity of about 2,000 simultaneous calls, per pair of fibres. Secondly, they can be used in three main ways: over inter-continental flexibility mean that they can be accommodated in exist-

ing Post Office ducts. Third, they are made from glass, which is an abundant and intrinsically cheap material (although the costs of achieving the exceptional purity is high). But perhaps the most important feature is that optical fibre is immune from electrical interference and stray voltages. Consequently it is very suitable for carrying data and the direct digital transmission of ordinary speech.

Waveguide and other forms of microwave transmission are likely to be restricted to trunk routes where high traffic volumes can justify the large installation costs and make use of the capacity of the system. Initially, optical fibres will also be used between large exchanges. They will be particularly suitable for connecting digital exchanges because of their use of digital transmission methods.

Eventually, however, it is possible that optical fibre costs will be reduced enough to be competitive for routes which at present have quite low traffic densities.

Some enthusiasts even predict that optical fibres could eventually be used to connect individual subscribers to the network. Clearly, this could only be justified by greatly increased usage of the lines.

Piped television or the use of viewphones could provide a demand for more high capacity cable, but perhaps in the long term it will come from the increase of data communications. The Post Office's Viewdata system which starts in public service next year points the way. This system enables

a modified domestic television set to be combined with the telephone service so that it can display information from a central Post Office computer.

Initially, this system will transmit data at the comparatively slow rate imposed by the restrictions of the present telephone lines. It is not difficult, however, to envisage demand for faster transmission speeds as subscribers begin to add small computing systems to their receivers. Developments of the system to handle still photographs or, later, moving pictures would also require improved transmission capabilities.

Reduced

All these new developments will bring grave problems to manufacturers, who will find the labour required to produce previous levels of communication capacity is reduced.

A waveguide, once installed, could, for example, almost obviate the need for any new cable for many years ahead. Computerised exchanges will require perhaps only a tenth of the manufacturing labour force compared with the older electromechanical systems, for an equivalent number of switches.

The great challenge ahead for manufacturers and public telephone authorities alike, is therefore to anticipate these problems and to promote demand for new services and wider use of the system. Otherwise computer technology will be seen as a dark menace threatening jobs and the stability of the industry rather than as a tool for expansion.

Two prongs to the revolution

By Max Wilkinson

the longer term, however, there is likely to be an increasing demand for a public switching network for data transmission similar to the ordinary telephone network. When this happens, computers will be able to dial up other computers, automatically if necessary, and exchange specified parts of the information stored in them. This is another example of the likely convergence between telecommunications and data boundaries.

A key factor in all these developments will be the improvement of transmission techniques to allow channels to carry a greater density of traffic and to improve quality by excluding unwanted "noise" from the signals. High quality is particularly important for digital transmission which consists of a series of Morse Code-like bleeps. Unwanted noise may obscure some of the bleeps and

The Foundation awarded a film development contract this month to the U.K. software company Logica for a study of the growth and pattern of future data communications up to 1987. The study is due to be completed by mid 1979, and it will have to deal among other things, with the complex issue of how to make data networks compatible, so that computers can talk to each other across national boundaries.

Coaxial cable now has two main rivals. They are transmission by microwaves and optical fibre. Microwaves are very high frequency radio waves which carry telephone conversations as if they were broadcast radio. They can be used in three main ways: over inter-continental flexibility mean that they can be accommodated in exist-

thus completely wipe out parts of the message. Traditionally, high density traffic has been carried on co-axial cable similar to the cable which carries a TV signal from the aerial to the receiver.

Coaxial cable now has two main rivals. They are transmission by microwaves and optical fibre. Microwaves are very high frequency radio waves which carry telephone conversations as if they were broadcast radio. They can be used in three main ways: over inter-continental flexibility mean that they can be accommodated in exist-

pared with about 16,000 for a bundle of co-axial cables. Optical fibre, on the other hand, uses a completely different principle. A small laser light source or a light emitting diode (similar to those used in calculators) provide a pulsing signal. The pulses are carried by a hair-thin glass fibre. Optical fibre has several advantages. First, its capacity of about 2,000 simultaneous calls, per pair of fibres. Secondly, they can be used in three main ways: over inter-continental flexibility mean that they can be accommodated in exist-

They can be used in three main ways: over inter-continental flexibility mean that they can be accommodated in exist-

Plessey: an important word in communications

Electronic communications. By land line or radio. Carrying speech or data; telex; picture telegraphy

Plessey systems and equipment play essential roles in all areas of communication: in public systems, in business and industry, in defence, in the UK and around the world.

Plessey serves public communication systems as one of the world's major telephone manufacturers, with exchange and transmission equipment in use in many countries. Plessey telex exchanges, backed by sophisticated test equipment, provide a vital link in international traffic. And Plessey is one of the principal contractors for the Post Office's new System X development, a totally new concept in electronic communication.

Plessey supplies commerce and industry with the most advanced private communications equipment including the new PDX all-electronic digital telephone exchange, direct speech for fast internal communication and other aids to efficient business operations. With the help of Plessey, modern

business can equip itself with a comprehensive speech and data communications network.

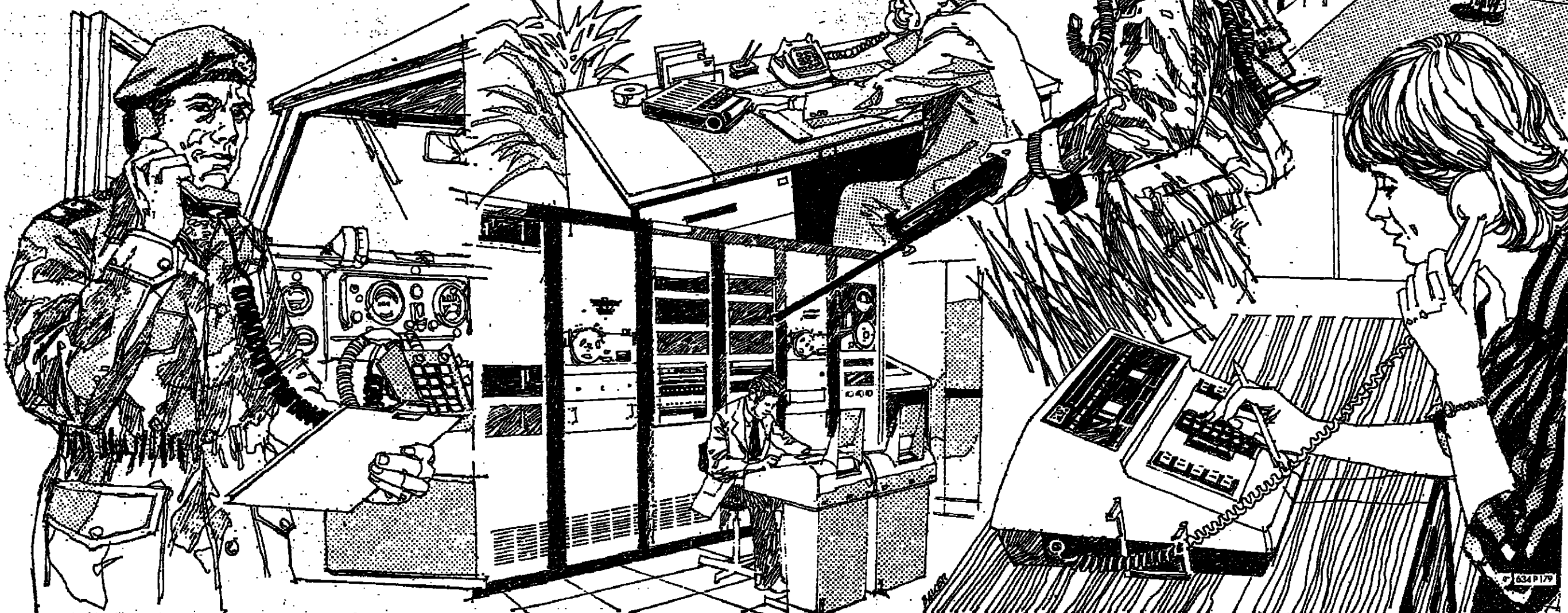
Plessey plays a significant role in defence as a major contractor for vital communication networks and other systems relied upon by Britain, NATO and many friendly nations. An example is Project Ptarmigan, where Plessey is the Prime Contractor and design authority for this digital trunk communications system due to go into service with the Army and the Royal Air Force in the early 80s.

Plessey provides research, development, production, after-sales support, and offers its customers a capability and co-operation second to none.

See Plessey at Communications 78, on Stands 4260 and 4360

PLESSEY GROUP

The Plessey Company Limited, Ilford, Essex, England, IG1 4AQ





We can help you reach it.

Many companies aim for peak efficiency. Few achieve it. And why? Because they look at the components of their business individually. Ignoring the glue that holds them together. In a word, communications. And, increasingly, good communications mean good telecommunications. Because telecommunications save you costly legwork, heavy travel expenses, empty desks.

Good telecommunications help you get the most out of your staff, and give your customers the best possible service. With good telecommunications you can go places without leaving your desk. With one exception. We believe you should send a senior man to see our stand (No 4450 in Hall 4) at Communications '78 at the National Exhibition Centre in Birmingham from April 4th-7th.

Post Office Telecommunications *We're here to help you*

The single terminal concept

New services from Reuters combine information from three separate data banks on one screen.

Reuters now offers two new and greatly extended services to the financial community on a specially designed terminal.

The new Reuter Monitor Commodities Service

On a single desk-top unit traders can now have a wider range of up-to-the-minute information on futures, physicals prices and contributed data, plus the option of The Reuter Monitor Commodities News and The Reuter Monitor Money Services.

The new Reuter Monitor Equities Service

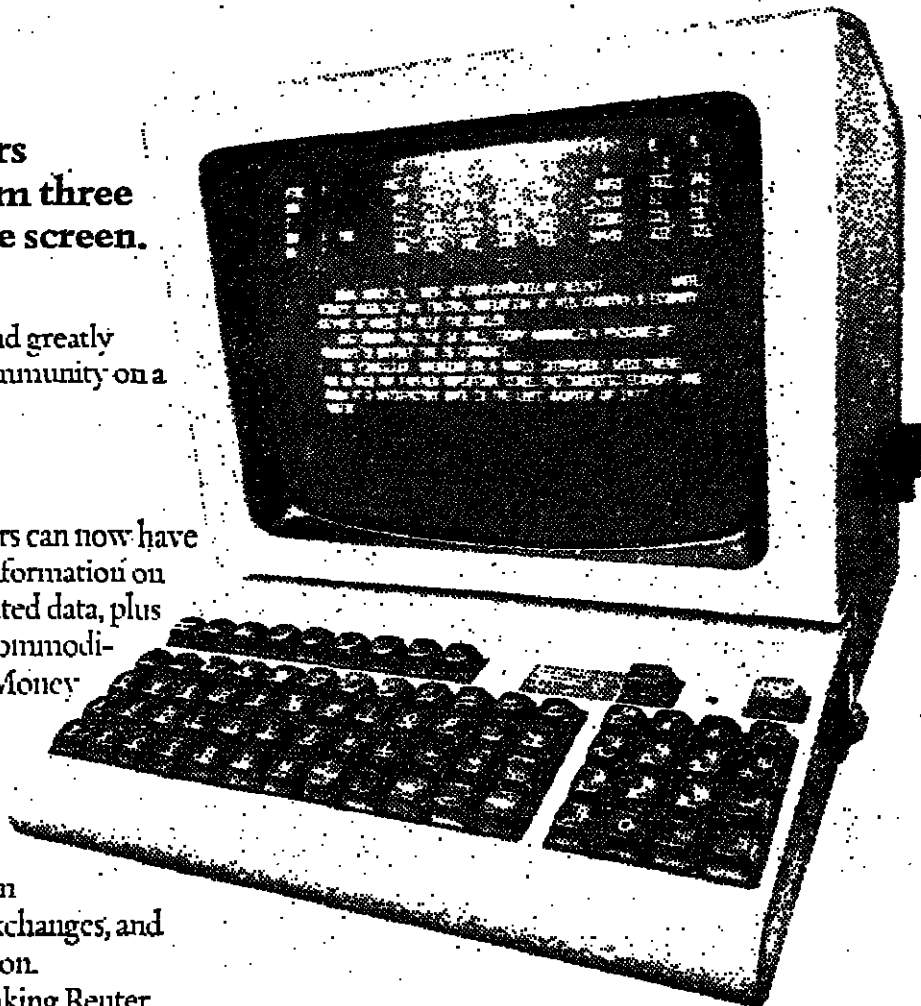
This is another multi-function service providing live quotations from the world's major stock and option exchanges, and market-maker contributed information.

Users also have the option of taking Reuter Monitor Bonds, Money Rates, Commodities or Reuters News Retrieval Services, all on one screen.

The new Reuter Monitor Terminal

This new terminal has a keyboard designed for simplicity of use. It incorporates 8 basic modes. The display information in a flexible way, permitting transition from one format to another. The screen mode allows different types of data to be viewed simultaneously.

When the divisions between different markets



are becoming less distinct, the interchange of constantly updated information is more important than ever before. This is what the new Reuter Monitor Terminal is designed to supply.

For details, please contact Mr S. Herman at Reuters.

REUTERS

Reuters Economic Services, 85 Fleet Street, London EC4
Tel: 01-355 6060

COMMUNICATIONS II

Telephones ring the changes

IN THE next two to three years most telephone authorities throughout the world will have made the important step, from the traditional electro-mechanical exchanges to a new system of computer control.

In the developed countries this change has involved huge investments of typically around £100m. for research and development into competing systems.

All the largest telephone authorities including the giant AT and T in the U.S., the British, French, German and Japanese Post Offices are committed to their own systems developed by their own manufacturers, though in France a decision has been taken to bring in the technology of Ericsson of Sweden alongside the purely French development of computer control.

In most of the rest of the world, the authorities will have to make a choice between the relatively few systems currently available for export. The main competitors are the AXE system developed by Ericsson of Sweden, the ESS range of exchanges from Western Electric the subsidiary of AT and T, the SPI from Northern Electric of Canada and EAX from American GTE, the DEX system from Japan, Metaco from ITT, the EWS system from Siemens of West Germany and the French CIT-Alcatel's E10 system and the PRX system developed from private branch exchanges by Philips of Holland.

None of the British companies making telephone exchanges will have a system on the market until at least 1983, a year after the first of the British Post Office's System X exchanges are commissioned.

Vital

The British will therefore be too late to compete in the vital first round of tenders as authorities throughout the world make their first choice of system.

Several major contracts have already been awarded. Perhaps the most important from a technological point of view in 1977 was the decision by the Australian authorities to choose Ericsson's AXE system in preference to ITT's Metaco. The choice was narrowed down from a wide range of tenders to these two companies, partly, no doubt, because they were both suppliers of electro-mechanical exchange equipment with factories in the country.

The Australian contract was seen as important partly because of the large size of the eventual order (about \$500m.) but also because of the very detailed technical assessment which the Australians made of the different systems on the market. Subsequently, an even bigger contract in Saudi Arabia was won jointly by Ericsson and Philips with Bell (Canada) as managers of the network. This was worth a total of \$3bn.

Ericsson was successful again in Brazil, where it already has a strong foothold, but lost to Siemens in the Philippines and did not tender against ITT, which won a large order for Metaco in Korea.

Several large contracts are shortly coming up in the Middle East. In Iran, where GTE is struggling against great environmental difficulties, the American Bell International is said to have 600 consultants studying the problem. It is generally expected that GTE will obtain a further firm order for about 500,000 lines in the near future in addition to the 108,000 lines in its present contract. However, the Iranians are expected to require about 3m. lines in the next five years and a new contract could be open to the world's bidders late next year.

In Iraq tenders are expected this year for a 100,000 to 200,000 lines of computer controlled or Stored Program Control (SPC) exchanges. French and Japanese companies, which

already have a foothold in the country will almost certainly bid in competition with Ericsson, Siemens and American companies.

A similar sized contract for about 200,000 lines is expected to go to open tender in the United Arab Emirates this year. A tough fight between most of the world's major companies for this SPC system can be expected here too.

Substantial contracts can be expected in several other parts of the world in the next year or two. Colombia is expected to require some 230,000 lines, on which a decision will be made this year. There is talk of a big contract in Argentina for about 250,000 lines. A similar sized system will be required in Mexico, where ITT has installed about half the network, but Ericsson, which also has a subsidiary in the country, is expected to put up a strong fight for the acceptance of its own system.

The Venezuelans are also expected, in the industry to be making their decision in 1978-79. In that country, Ericsson has installed more than half the present system and has a manufacturing subsidiary there.

The award of most of these contracts will depend on a complex of political, commercial and technical considerations. Authorities naturally want the best available system at the cheapest possible price, but in many countries the provision of jobs is of almost equal importance, so that companies with local manufacturing plants may be preferred.

It is certain, however, that the struggle to gain a share of these markets over the next few years will be extremely keen, because the companies which gain acceptance of their own SPC system will be able to look forward to very substantial follow-on business over the next 10 to 15 years, and they may be able to exclude competitors completely from tendering for subsequent orders. The main reason for this is that all SPC systems are immensely complicated compared with the electro-mechanical exchanges which they supersede. For example, the manuals describing a traditional Crossbar exchange can be contained in between four and eight files which can easily be stored in each exchange for reference and maintenance purposes. Moreover, the exchanges made by different manufacturers are not wildly dissimilar, so that it is possible for maintenance engineers to understand more than one "brand."

He has already become familiar with transatlantic telephone conversations beamed upwards to a "stationary" satellite orbiting at the same angular speed as the earth and beamed downwards again suitably amplified to sound as though the speaker were in the room next door.

There is a host of satellites ferrying messages across the sky. But more important than simple messages for the ship or aircraft captain is the existence of advanced aids in space which can pin-point positions on the surface of the globe to within

The documentation for an SPC system, on the other hand, runs to perhaps 200 separate files, which can scarcely be stored in each exchange, let alone learned, understood and updated by engineers.

The complexity arises from the fact that SPC systems have replaced the electro-mechanical means of routing calls with computer programs. These programs do not only route calls, however. They are used for routine operations and maintenance and fault-finding, the charging of calls and a host of other inter-related tasks.

As Mr. Kjell Sandberg, an Ericsson engineer, put it: "The complexities are so great that trying to understand any single part of it will make you faint." Between 200,000 and 400,000 separate computer instructions are needed to program each exchange.

Practicable

To make the systems practicable, a large number of engineers' aids have to be built in, which are themselves computer-controlled. The AXE system, for example, has no fewer than 50 separate programs which are designed to make the engineers' task in handling the system easier.

Ericsson has also pioneered its well known "modular system" designed to ensure that an engineer working on one part of the system cannot rewrite a programme in such a way that it will accidentally alter the working of another part of the system. This possibility was one of the major disadvantages of earlier generations of SPC systems, including Ericsson's. An accumulation of accidental changes to the programmes could eventually cause the system to become unmanageable, and re-ordering of the programmes could then be a very expensive and skilled business.

Against these complexities, a telephone authority can set the very much greater flexibility of an SPC system, greater ease of installation and economies of maintenance. Since changes to an SPC network can be made by instructions from a computer terminal rather than by engineers with soldering irons, a large reduction in operating staff is also possible.

On the other hand, the skills required to keep the system running are of a comparatively high order, and include considerable programming expertise. For this reason it is

unlikely that any but the largest countries will want more than one or at most two separate systems in its network, and authorities will place a high premium on ease of maintenance.

That is why the current round of tendering is so vitally important to the world's manufacturers. For the same reason, the British Post Office's slowness in developing a stored program control system has put the two British manufacturers, GEC and Plessey at a crippling disadvantage which may continue for many years even after System X comes on to the world market. Many countries will have already made their choice before then. The position of Standard Telephones and Cables, ITT's U.K. subsidiary, is somewhat more equivocal. On the one hand, it had given its full backing to the development of System X (a necessity if it wishes to secure a part of the U.K.'s future market).

On the other hand, it could still have access to the Metaco system or its replacement, if it finds eventually that System X fails to realise the exporting hopes which are now being pinned on it.

It is clear that to do well in exports, System X will have to provide features which are substantially better than those of the established competition. One such feature is the fully digital switch, which uses computer technology for the actual switching of conversations. Many SPC systems still use semi-mechanical switches controlled by a computer. However, the potential advantage to System X of being designed in a fully digital manner has probably been overstated.

Digital

American systems, and the French E10 exchanges are already fully digital, while Ericsson's AXE system has a digital option which is now in service in Sweden and is on order for several different parts of the world.

It is more likely that System X will be judged by its ease of handling by field engineers, by its success in reducing the daunting complexities of programming to easily manageable modules, and by its flexibility in working alongside old fashioned exchanges which will continue to exist in most telephone networks until well into the next century.

Max Wilkinson

A host of satellites

SAFETY AT sea and in the air will depend increasingly on communication with earth-orbiting satellites. These costly items of space hardware are no longer the exclusive province of military establishments as ship-owners and airlines, passengers and governments demand ever-greater navigational accuracy and as the military planners seek to justify their enormously expensive programmes with spin-off for the man in the street.

He has already become familiar with transatlantic telephone conversations beamed upwards to a "stationary" satellite orbiting at the same angular speed as the earth and beamed downwards again suitably amplified to sound as though the speaker were in the room next door.

There is a host of satellites ferrying messages across the sky. But more important than simple messages for the ship or aircraft captain is the existence of advanced aids in space which can pin-point positions on the surface of the globe to within

an accuracy of at least 50 metres—and a good deal less than that with advanced receiving equipment.

The earliest navigation satellites launched by the U.S. in the Transit series had one object in life—to enable Polar submarine captains to know precisely where they were so their missiles could be launched accurately. The system was made available for commercial use in 1966, six years after the first Transit was lofted on high. As well as the satellites' use in a communication, they have been used for aiding in geological and oceanographic research.

In simple terms their main function is to transmit radio signals on very high frequency and ultra high frequency wavebands. The signals are transmitted continuously, with data on the time of transmission, precise orbital location.

Complex ground-based satellite navigation signal receivers with computer memories store data as satellites pass overhead, may see the system through to

By taking several "readings" of the transmitted signals, the receiver can be used to give its operator an even more accurate idea of where the satellite is at any given moment.

The greater the number of orbits from which the receiver takes information, the greater the accuracy with which the position of the satellite and the receiver can be determined. But many "cheap" receivers, costing less than £10,000, do not have the capability of giving readings to an accuracy of a few metres. For some applications this may not be a concern. But where the job is that of locating a drilling rig on an ocean oil-field, the expense simply cannot be spared if accuracies down to a few metres are essential.

The Transit network is now 18 years old. Many of the original satellites may have only a few years of useful life left, but earlier this year contracts were placed by the U.S. Administration for an improved version, called the Nava satellite, which may see the system through to

CONTINUED ON NEXT PAGE

The world of communications has never been the same since the computer



Scicon
A member of the BP Group

Computers are no longer constrained to a centralised data processing role but with the advent of the mini and micro have breached horizons in the communications field that ten years ago could not have been imagined.

Scicon is in the forefront of this technology with practical experience of implementing projects worldwide using the latest techniques and developing others which are unique to Scicon.

Some of the services and products that Scicon can offer are:
Microprocessor based terminals—development of terminals for special applications eg ARG terminals for the error-free transmission of computer data by HF radio.

Message switching—small and large systems based on DEC PDP11 minicomputers. Telex Interface.

Network interfacing/front ending—dedicated PDP11 based communications processors front ending IBM or other computers.

Communications consultancy—consultancy in computer selection, system analysis, feasibility studies, project management etc.

Turnkey communications systems.

Come and see the Scicon stand at Communications '78
4-7th April
National Exhibition Centre, Birmingham.

Scientific Control Systems Limited,
Sanderson House,
49-51 Berners Street,
London, Great Britain,
W1P 4AQ.
Telephone: 01-580 5509 Telex: 24293

COMMUNICATIONS III

Authorities exert their influence

PUBLIC telephone authorities worldwide have two major characteristics which are in contradiction to each other but which taken together act as the major determinants in the field of telecommunications—and, indeed, communications in its widest sense.

These are that public telephone authorities—known as PTTs, the standard abbreviation for postal, telegraph and telephone authorities—have an overwhelmingly dominant position nationally—that is, within their own borders—and almost no power internationally, because they cannot themselves organise, or have any powerful umbrella organisation which can organise, across national boundaries.

Naturally, this characteristic is shared with almost all public institutions: almost by definition, since these institutions are created to do a national job under the control or sponsorship of the State. However, it is worth stressing the point in this context partly because of the immense purchasing power of the PTTs, partly because of the effect they have on the technology of communications and on when that technology can come on stream, and partly because of the important position (though it is likely to be a latent one) domestic politics inevitably play in any such institution.

Most of all, however, it is worth stressing the point because the PTTs confront companies possessing characteristics

which are almost a mirror image of their own—i.e., they are comparatively weak domestically, but strongly organised on an international or transcontinental basis.

The symmetry is not quite as neat as all that. Yet it is the case that the major telecommunications manufacturers are large multi-national companies which are very often (but by no means always) dependent on the good offices of their domestic PTTs for their bread and butter, but which possess great flexibility in production techniques and in marketing because of their multi-national bases.

It is worth testing this very basic "contradiction" matrix against real examples to see how well it functions as a description of what is happening in telecommunications both nationally and internationally.

Take first an extreme case: Sweden. Sweden is extreme (or at least very unusual) both because its PTT follows a more than usually rigorous policy of buying internationally and because this relatively small country contains one of the world's major telecommunications companies, L. M. Ericsson.

In terms of telephone penetration, Sweden is second only to the U.S. Almost three out of four Swedes (by population not by household) have a phone of their own—in the capital, Stockholm, there are around 1.2 phones per person—an index of the efficiency of the Swedish PTT no doubt. But its policy of not depending on even so inter-

nationally reputable a company as Ericsson for its equipment—indeed, the Swedish PTT manufactures much of it on its own account—has meant that the company has had to regard the world as its market. (It would, in any case, have been forced to do so sooner or later by the relative smallness of the domestic market.)

Thus Sweden's PTT, together with its small size, has "produced" a telecommunications company which is immensely aggressive in foreign markets, especially in developing countries (where the largest contracts are now to be found). Naturally this combination of policy and geography has only "produced" the preconditions for success, or some of them. The company itself, and the skill of its engineers and other workers, has done the rest.

It has resulted in a company which has sales of more than 80 per cent. overseas (1976), more than 20 per cent better than ITT of the U.S., which was also—though for different reasons—forced into the overseas market, and around 15 per cent better than the Dutch company Philips, which also has a small home base (though Philips is significantly larger and probably has a closer relationship with its PTT).

The imperative to achieve

sales overseas, together with the added fact (which often sits uncomfortably with the first) that Sweden has among the highest labour costs in the world, has meant that Ericsson has concentrated strongly on high technology, and high quality, banking on the possibility that PTTs will often pay higher prices for the latest technology. So far the formula has worked well.

Within the last six months L. M. Ericsson has won a major contract in Australia, and has been part of the consortium (with Philips) which won the gigantic Saudi contract.

Standards

Thus it presents an almost too classic case of the general point made earlier—a company which is weak domestically and strong internationally, forced in part to be so by the policy of its own all-powerful (domestically) PTT. To test the proposition further, we might take a not altogether contra case, that of Britain, and examine it at somewhat greater length.

The British Post Office, the first institution of its kind in the world, has an all but complete monopoly on telecommunications. Its standards are widely agreed to be among the

highest in the world, and with a yearly budget for telecommunications development of around £1bn., or £3m. a day, it can keep three manufacturers fairly busy (the three being Plessey, GEC and STC, the British-based subsidiary of ITT).

Most equipment manufactured by these companies has to be approved at each step of its development by Post Office engineers. While some equipment—namely any private automatic branch exchanges (PABXs) with over 100 lines—can be sold direct to a customer, even then it must be exhaustively examined and approved by the Post Office before being put into service, and it must be maintained by Post Office engineers.

There are a number of characteristics inherent in British Post Office practice which should be noted in this context. First, it can provide its manufacturers with a comparatively large home base, and one which has been and still is, very sophisticated. Much of the European and U.S. trunk routing for example, is done via Britain. Secondly, its pride in its traditions, and its insistence on high quality custom-built equipment, has meant that it has known overseas, which is not had little (until recently) fully electronic in the sense

(and thus the companies' manufacturing) policy would affect overseas sales. Thirdly, it tried to go "electronic" in the 1960s, failed, and is only now near to making another attempt—some time behind many European PTTs and many years behind the U.S.

In sum, then, Britain has a highly monopolistic PTT insistent on high quality custom-built equipment which operates a network still either semi-electronic or electro-mechanical. For all three of the companies which supply the corporation with its equipment it is the major customer by far. That means that their telecommunications output will be dominated by the Post Office's requirements which are for new semi-electronic exchanges and for replacement of electro-mechanical equipment. Thus to get Post Office contracts, that is what Plessey, GEC and STC must make.

Demanding

They are not, of course, doing so at a loss. But it does mean that at a time when export markets are demanding fully electronic exchanges, the British companies can only offer the known overseas, which is not fully electronic in the sense commonly used.

There has been a recent example of how this state of affairs is working against the U.K. companies. Emirtel, the PTT for the United Arab Emirates, announced last month its plans for investment over the next five years. One of the major elements in these is the decision to switch from the Plessey-made Pentex exchanges to a fully electronic system; the contract for the electronic exchanges is currently out to tender. For Plessey it means that a small but nevertheless important market has almost certainly drastically contracted.

Again, the Saudi contract last year showed that the British companies—Plessey, BICC and Cable and Wireless—were all involved—could only climb aboard major international contracts on the coat-tails of much larger companies. In this case the Plessey TXE2 exchanges were to be used as rural exchanges, while the Western (which led the consortium) ESS exchanges would provide the bulk of the switching in the cities.

The new Post Office management seems prepared to hustle along the development of System X as the new fully electronic all-British system is presently known—and to allow its suppliers to cut corners previously thought uncuttable. But on the most optimistic esti-

mates there will not be commercial production of System X before 1983-85, by which time further developments in the Ericsson AXE, the Philips PRX or the ITT Metaconta exchanges (to mention only the most competitive on the European scene) may have outstripped the new U.K. technology.

Having made a pessimistic reading of the situation, however, it is necessary to add that while the particular relationship between the Post Office and its three suppliers has helped "produce" a comparatively uncompetitive telecommunications industry, the entire burden of the blame cannot be laid simply at the door of the corporation. The companies were and are free to turn down Post Office contracts in favour of export-oriented telecommunications manufacture—though naturally, and especially now, the competition is ferocious and the risks immense.

Yet in opting for security the U.K. companies may have relegated themselves to a more or less permanent second league position in world tables, and may have made it possible that one at least of them will be forced out of telecommunications equipment manufacture in the near future.

John Lloyd



A Multitone 'Pagephone' being used by a British Airways passenger service assistant at Manchester Airport.

Satellites

CONTINUED FROM PREVIOUS PAGE

the end of the century.

By then, however, a new and vastly improved navigation and position information system is likely to be in operation. Called Navstar, this also has its origins in military strategy, for one aim of the U.S. Air Force and U.S. Navy sponsors of the programme is to create a satellite-based navigation system capable of providing any moving ship, aircraft, cruise missile or even vehicle of its position on a continuous basis.

The complete system is unlikely to be fully operational before the mid-1980s, but there are certain to be commercial applications, as the military authorities respond to a genuine need for highly accurate navigation in shipping lanes and in the air. The military potential of the system will be safeguarded through the use of signals which will be coded and proof from interference from jamming. The public will have access to a simpler signal.

In the more conventional world of radar, there has been intensive study over recent years of the potential for accidents in the world's busiest shipping lane, the English Channel. Here, a mass of research has been carried out by the British and French Governments.

The object has been to reduce the risks of major collisions. Britain's National Maritime Institute is working along two main lines. It has already studied historic radar information and documented data relating to casualties and navigational incidents. Now it plans to continue research of traffic flow in the Channel, using time lapse radar film and periodic traffic surveys, with ship identification. In June last year this included a full-scale Channel survey in conjunction with the Institut de Recherche des Transports.

This French body has carried out research into ways in which ships can be identified at night, using low-level cameras and shore-based searchlights. One novel solu-

tion may involve the automatic data processing of photographs of a radar display, although it is by no means certain that these could be interpreted instantly for identification purposes.

Much of this work followed the Anglo-French publication in February, 1974, of a report describing the Service d'Information et de Surveillance de la Navigation en Manche and the Channel Navigation Information Service. The report gave proposals for the development of radar surveillance and information services for Channel shipping.

For the shipowner these reports and the continuing studies on improving safety in the Channel have already had important implications. On the English coast expansion and improvement of the radar installations following the Anglo-French Safety of Navigation Group report of 1974 was completed on August 18, 1976, when two new 20 kilowatt radars, one at Dungeness and the other at St. Margaret's Bay, replaced the small experimental radar previously used.

A continuous photographic record of the radar displays is maintained by the National Maritime Institute.

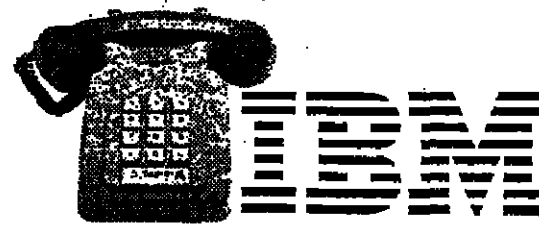
In France the Service d'Information et de Surveillance de la Navigation en Manche has extended its operations centre and installed a form of computer-aided data processing. This provides a synthetic display of radar input. A computer allows automatic detection and tracking of radar echoes from vessels contravening the traffic separation scheme operated in the Channel.

In addition, a very high frequency (VHF) direction finder has been installed. This enables ships using their VHF ship-to-shore radios for conversations to be identified with the corresponding echoes on the radar display. It is likely to be of great value where a ship in difficulties is unsure of its position.

Lynton McLain

Your new telephone extension.

WE HAVE A SYSTEM THAT CAN TURN AN ORDINARY PHONE INTO A COMPUTER TERMINAL,
TRANSMIT INFORMATION THROUGH A TV MONITOR SCREEN,
ACT AS A TIME CLOCK AND SECURITY GUARD,
DIAL NOTTINGHAM IN ONE TAP, NEW YORK IN ANOTHER,
REROUTE CALLS,
INTERRUPT CONVERSATIONS WITHOUT EAVESDROPPING,
CALL BACK ENGAGED NUMBERS FOR YOU,
DIAL THIRD PARTIES INTO THE CONVERSATION,
AND IS SUCCESSFULLY OPERATING IN BRITAIN RIGHT NOW.
LOOK INTO IT.



See us at COMMUNICATIONS 78 Stand 4440, Hall 4. The IBM 3750 Telephone Switching System.



Giving a call may seem child's play... True! But only a limited number of companies in the world can design, manufacture and set up complete communications systems...

Do you know that as soon as you dial your correspondent's number a whole series of operations takes place to route your call. It involves the most sophisticated electronic techniques in the fields of telephone exchanges, cable transmission, microwave links, satellite communication earth stations and other systems. THOMSON-CSF, the French leader in professional electronics

and a specialist company in the transmission field, together with LMT - Le Matériel Téléphonique, Société Française des Téléphones Ericsson and LTT - Lignes Télégraphiques et Téléphoniques, constitute an international conglomerate capable of supplying complete networks and of meeting all advanced communications requirements.



THOMSON-CSF

23, RUE DE COURCELLES / B.P. 98-08
75362 PARIS CEDEX 08 / FRANCE / TEL.: (1) 256 52 52

Indian Telephone Industries (ITI) has taken rapid strides to bring contemporary technology in telecommunications. It is one of the very few factories in the world manufacturing A to Z in telecommunications — ranging from Telephone Instruments, Strowger and Crossbar exchanges, Electronic Telephone Exchanges, Microwave, UHF, VHF systems, Coaxial cable systems, VFT, Satellite Earth Station equipment and a host of Telemetry and Telecontrol Systems.

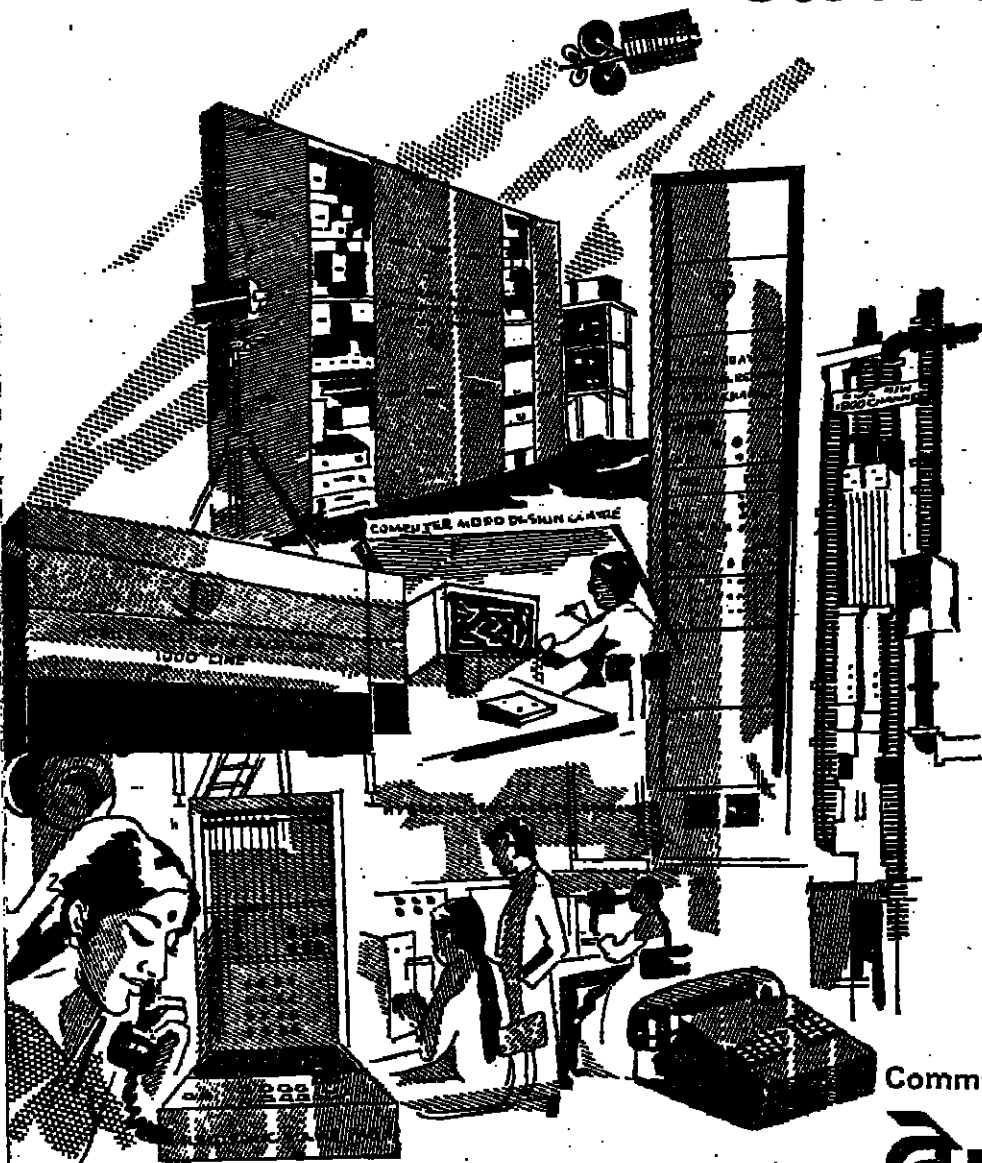
With nearly 30 years of service to the telecommunication world, ITI has today grown into a mammoth industrial complex having nine factory units and employing over 24,000 workers.

ITI has developed a powerful R & D organisation of the finest teams of engineers and managers capable of undertaking production of sophisticated reliable

telecommunication equipment meeting international standards.

ITI has rendered consultancy and executed turnkey installation jobs in many countries of the world, and has supplied telecom equipment to nearly 40 countries including UK, Australia, East Africa, Jordan, Saudi Arabia, Oman, Nepal, Sri Lanka, United Arab Emirates and Suriname.

Telecommunications Equipment Contemporary with the State of the Art



Communication is our business

**INDIAN
TELEPHONE
INDUSTRIES
LIMITED**
BANGALORE 560 016
INDIA

COMMUNICATIONS IV

Strains on the manufacturers

ITT'S BELGIAN subsidiary, Bell — a confusing name, with nothing to do with American Bell — has its major manufacturing base at Geel, near Antwerp. The factory is ultra-modern, long and low, covering a large expanse of ground. In the reception area the Metacanta 10c, ITT's new fully electronic exchange, is displayed, together with some rather more venerable equipment.

The surprise is that, once inside the factory proper, on the busy workshop floor, the exhibition in reception is to some extent paralleled. The Geel factory manufactures three types of switching equipment, representing three different stages of technological advance: two kinds of electro-mechanical switches, and one electronic (the Metacanta). The production of the electro-mechanical switchgear takes up much more space and requires much more labour than the electronic equipment. It is much larger and its production can be much less fully automated. Yet the company is obliged to carry on producing it far into the future if it is to meet present contracts and win new ones.

This state of affairs is one with which most major telecommunication manufacturers are familiar, although the ITT plant in the above example shows it in a particularly graphic form. It is that while developments in switching technology have been leaping ahead over the past decade, the investment in previous technologies — electro-mechanical, in the main, with some semi-electronic — has been so vast, and will cost so much to replace, that the replacement market in these technologies will continue to take much of the output of the manufacturers for years ahead.

The dimensions of the problem go beyond what most other manufacturers must cope with. An automobile company, for example, must, it is true, continue to supply spares for ranges of cars long since out of production: but these spares are a minor and sharply decreasing part of the company output. They are also unlikely to be fundamentally different from the components for its present ranges of models. But telecommunication companies must often give over the bulk of their production to old technologies, while at the same time tooling up for the production of advanced equipment for which there may not yet be much demand. In development terms they must face both ways at once, forward and back. Naturally, this places a considerable strain upon their capital requirements at any given juncture, and gives a particularly sharp edge to the competition in new markets.

Crossbar

The technology of telecommunications has been electro-mechanical for decades, based on the Strowger (or step-by-step) or crossbar switch. There was, however, a gradual evolution away from distributed control (as in the Strowger system) towards common control even before the advent of electronic processors. Their widespread availability completed and accelerated the trend, and meant in addition that the number of facilities which could be offered to the customer greatly increased. The harnessing of the computer to the exchange meant that switching decisions were made centrally, much faster, and that much greater attention had to be paid to software — the writings of programmes — than ever before.

One of the major effects of this development, both for the manufacturers and for their major customers, the PTTs, is that fewer engineers can both make and maintain exchanges. The harsher consequences of that effect have not been felt generally, in part because the new technology is at an early stage of introduction, in part because growth in the telecommunications market still compensates for it. But it will not remain so for long.

This, then, is the working environment of the manufacturers. They are of course under constant pressure to modernise and to innovate, both to offer better equipment to their customers and to save on labour costs. But because they work in such a public environment — most supply Government, or quasi-Government agencies — their decisions cannot merely be market ones.

What, then, are the major companies which chose to remain (or are allowed to remain) in this difficult market? First, in importance and size, are the two American companies, Western Electric (a subsidiary of AT and T) and ITT. The archetypal (or unique, depending on how you view it) multinational; then comes the German company Siemens, the

Swedish company L. M. Ericsson, American GTE, then Japanese manufacturers, Hitachi and NEC.

The British company GEC is next in rank, then Dutch Philips, Northern Electric, the British Plessey, the French Thomson-CSF, the German AEG and the French CGE.

These companies have been listed in order of size of turnover; but it should be noted that many of them have interests outside telecommunications, some of them with their major interests elsewhere — as GEC and Hitachi, for example. Those whose major or total output is in telecommunications — the two U.S. companies and L. M. Ericsson, for example, and to a lesser extent Philips — naturally have a great deal to gain and lose from the vagaries of the world market: they also tend to be the major innovators and the leaders in technique and technology.

The two U.S. companies present interesting cases, both because they are so large and because they are strongly contrasting. For reasons discussed elsewhere in this Survey, Bell and Western Electric have between them a virtual monopoly on the supply and manufacture of telecommunication equipment of all kinds in the massive U.S. market. Western is now the largest manufacturer of its type in the world, with more of its ESS electronic exchanges in operation than all the electronic exchanges of its competitors put together. Until recently, Western Electric had no extra-U.S. presence for the excellent reason that it did not need one.

ITT, however, was barred from the market by the Bell monopoly: it thus went elsewhere for its markets, notably (at first) Latin America, then Europe, and now, increasingly, the developing countries of Africa and the Middle East and Far East. Over 60 per cent. of ITT's total manufacturing turnover is abroad, and that includes most of its telecommunications manufacture. Thus one giant

has grown large in domestic operations, the other in foreign operations. That state of affairs, however, seems likely to change.

Most of the other manufacturers do not provide such extremes. With the exception of Ericsson (discussed elsewhere), the companies operate both in a home base and abroad, with the domestic environment traditionally providing the basic turnover and the export market the adventure.

This strategy has entailed the companies forming exceedingly close links with their own PTTs, frequently acting as R and D annexes for these authorities, or having the authorities do the same for them. It has also meant that the PTTs' ordering policies determined to a considerable degree what the companies could offer in the export markets, a field in which the authority can be more or less helpful.

Joint

Philips, for example, recently made a joint announcement with the Dutch PTT on the installation of the 500,000th SPC (stored programme control) telephone line in the Dutch telephone network. The announcement was made the occasion of an international Press conference. To U.K.-conditioned ways of thinking, it was puzzling that the Dutch authorities should have shared the announcement with Philips: the British Post Office tends to keep its manufacturers rather severely in the background. But neither the Dutch company nor the PTT saw anything in the least unusual in using the line's installation as a boost for Philips' SPC system — the PRN — in exceptionally tough markets.

To balance this, it should be noted that both the British Government and the British Post Office were involved in trying to woo the Saudi contract — unsuccessfully, as it turned out — to the Anglo-American consor-

tium which had been formed to bid for it. Even traditionally stand-offish authorities, like the British and the Germans, have entered the market, impelled by the knowledge that if they do not, their own suppliers' viability may be threatened.

The future for the companies looks, if not bleak, then uncertain. All the larger ones are faced with this fact, that while they now have greater capacity than ever before — because of the new technology — and thus must win orders at a higher rate than before if they are to maintain even current levels of employment, they are facing domestic markets which are often quite near to saturation or where further growth at the present high rates is limited. They are thus all forced to compete in markets where there are no domestic suppliers, and these markets are becoming very rough indeed.

What this will mean will vary enormously from company to company. For Western and ITT, there is no doubt that it will mean a series of mammoth encounters over similarly mammoth contracts, with much entertaining mud-slinging on both sides failing wholly to disguise the desperate nature of the battle. For large diversified companies like Siemens and GEC, it may mean a relative decline in the importance of their telecommunications businesses. For companies wholly or largely dependent on telecommunications manufacture — L. M. Ericsson, Plessey, Thomson-CSF — the future can only hold an unceasing effort to offer more sophisticated equipment and facilities than their competitors. For the emerging Japanese companies, like NEC, present practice seems to point to low-cost operations in developing countries. The common factor is that all will need their wits about them and that, while at any given juncture the winner may take all, all cannot be winners. The grisly book on which will be the losers is already open.

John Lloyd

Improving the service

IN A very recent report on "Convergence" by the Butler Cox Foundation of London, it was pointed out that if a number of large European companies were to band together and buy and operate a communications satellite to link 50 of their offices and sites in various countries, they could do themselves a power of good.

Based on current charges for a satellite and its launcher, and pessimistic assumptions about the extent to which the message carrying capacity of the "space exchange" would be used, the operators would profit handsomely.

Butler Cox predicts a vast reduction in communications charges. An example is a call from Britain to Germany where the basic unit of charge is three pence. This buys a user five seconds. For the same price, the satellite user would get 300 seconds of time or 60 times as much. In the reverse direction, since German charges are much higher, the satellite would show an even greater advantage.

Of course, this is reducing the problem to its simplest elements, not that a group of companies would not be able to put up the £5m. or so required, but the public telephone authorities of the various countries involved would be most unlikely to grant permission. At the same time, there would have to be standby capacity in the form of a dormant satellite and through existing landlines for the times (rare) when satellite transmissions suffer problems.

Nevertheless, it appears that too many companies take communications costs for granted though these are frequently much higher than computing charges. When close scrutiny of what it costs a company to keep in constant touch with its branches and overseas operations becomes a matter of routine there may be a great deal more pressure on PTTs generally to provide services at the lowest possible cost.

This, then, is one of the major considerations that telecommunication authorities must have in mind at all times as they investigate methods of improving internal and external services. Many of the European

systems suffered severely from wartime and post-war stringencies and a number, including the British one, developed some extremely ingenious ways of getting a quart into a pint pot.

In other words, by using a technique called PCM, or pulsed code modulation, it was found possible to carry several conversations simultaneously where only one was carried before. This is done by sampling the analogue sound pattern at high speeds and using the values found to describe a particular outgoing pattern as a series of peaks rather than a continuous wave.

Interleave

This makes it possible to interleave the signals from several conversations, decoding them at the end of the PCM line. With a sufficiently high sampling rate it is possible to go much further than telephony and provide, as AT and T demonstrated in the laboratory over ten years ago, TV channels as well as data transmission at high speeds.

In the autumn of 1976, the Post Office decided to take the plunge — after investigations lasting some 18 months — and order from GEC Telecommunications and from STC seven systems based on this technique, each capable of carrying 1,680 telephone calls simultaneously, or a TV signal, on standard 4.4 mm. coaxial cable. This was the first step towards linking all-electronic exchanges to be set up all over Britain by the late 1980s.

Signals from 56 PCM equipments of 30 channels each are combined into a stream running at 120m. tiny signals (binary digits — or a form of Morse code) per second.

Development work on this method of transmission started over 30 years ago in Britain at about the same time that Bell Laboratories started to look at the possibilities of guiding microwaves through long pipes as a form of carrier.

British radar successes

during the Second World War contributed greatly to the understanding of the problems of this difficult technology, but in the absence of suitable electronic components the work went into abeyance from 1959 to 1962. Another reason for the hold was that a coast to coast carrier in the U.S. of the size then thought feasible would have greatly exceeded the growth pattern of the Bell system.

But because of the unprecedented expansion of traffic in America the ideas were reactivated and a joint project set up to build an experimental line. This took advantage of the latest high power devices from the electronic component engineers and over 14 km. of test line was set up to show the ability of millimetric waves in a helical system to carry any form of communication with an error rate in the digits transmitted of less than one in ten million.

The aim was a long-line system able to support 475,000 two-way voice circuits or the equivalent in other media. More significant still is the fact that the cost per system-mile is expected to work out at less than other competing systems for a fully loaded network.

Matters have not stood still in Britain and about 18 months ago the Post Office disclosed plans for the installation of a 132 km. millimetric two-inch helical waveguide system between Bristol and Reading. BICC would make the equipment and the £5m. project would be up and working by 1982 with the ability to carry as many as 500,000 simultaneous calls.

In this area, R.I.C. apparently has a lead over U.S. and Japan since it has been operating a full scale production plant for some time. But it will not take long for its competitors to move from the pilot stage if good business is offered.

The effort on waveguides was spurred partly by the fact that microwave radio systems fade considerably over the free space paths they travel through in carrying digital traffic. They have high immunity to distur-

CONTINUED ON NEXT PAGE

COMMUNICATIONS V

Competitive world markets

AROUND the time when ITT was becoming aware that it was unlikely to secure the contract for the extension to the Saudi Arabian telephone system—at 2bn. the biggest deal of its kind in the world—but long before ITT was willing to publicly concede defeat, a senior executive of ITT (Europe) was asked by a journalist how important the deal was, and what damage it would inflict on the corporation if it were lost.

The ITT official, who was 99 per cent. certain that the contract would not come the way of ITT, protested that it was almost certainly in the bag and that the opposition was running scared. However, to answer the question, the questioner should bear in mind that while deals like the Saudi one were terribly important, the markets of the developed world were actually much more lucrative. And further, he added, the kind of markets in which contracts were being won now—Saudi Arabia being a good case in point—were so fraught with difficulties that vast, turnkey contracts like the one under discussion were often literally more trouble than they were worth. While they had to be pursued in order to keep the order book full and the labour force occupied, there was no way of guaranteeing that the whole thing wasn't run at a loss and that the government for which you were working would of leave you with a raw deal.

The ITT man, who was being rather less than wholly forthcoming about the deal, was accurate enough about the rest. Domestic European and American (and Japanese) markets are still the largest in the world, and still offer very large pickings. For example, while the 2bn. Saudi contract was a once-in-a-lifetime deal over five years, the British Post Office spends the same amount of money in two years on its ordinary programme of expansion and renewal.

Again, it is quite right to say that foreign markets offer endless scope for hazards: any gathering of telecommunications engineers from multinational companies will tend to

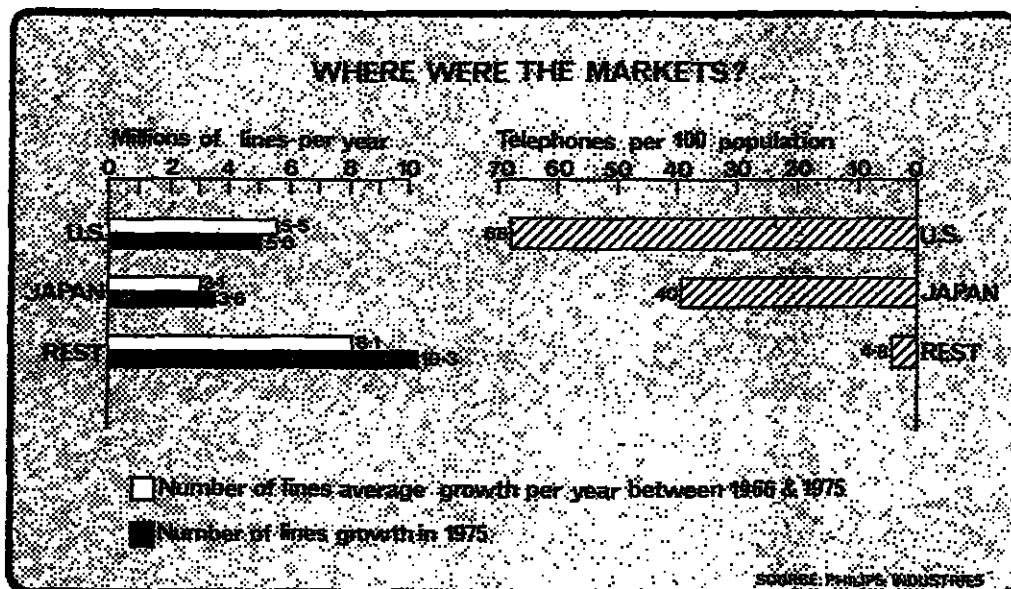
be heavy on the tales of nights spent in the bush while creatures unnamed and unknown dug up the newly-laid cable. At around the same time as it was losing the Saudi deal, ITT won a smaller contract—worth a few hundred million dollars—in South Korea, which would involve digging up much of the central area of Seoul. No one had much idea of how to work out the cost of doing so, an exercise which would inevitably depend heavily on a fairly detailed knowledge of South Korean property law.

So why, then, are the companies cutting each other's throats to get into the uncharted territories of the developing countries' markets? Quite simply because the markets of the advanced countries are either strongly protected for their domestic suppliers against foreign competition (U.S., Japan, U.K., France, Germany) or too small to offer much of a market anyway. After your own backyard, the developing world is about the only place to go.

First, it is necessary to get some idea of the size of the market place, and of its worth. There are something like 400m. telephone sets in the world, with over half of them in the U.S. (around 150m.) and Japan, with the rest of the world sharing very unequally, the remaining 200m. This represents an investment of more than £300bn. with a market (outside the U.S.) estimated in 1977 at around £18bn.

The accompanying charts show the market's growth. The dominant U.S. shows over 5 per cent. growth in the 10 years between 1966 and 1975, but the evidence is that that growth is slowing. Japan has overall lower growth, but increasing, while the rest of the world has higher growth (from a much smaller base), accelerating quite fast.

The second chart puts things into clearer perspective, showing both growth and the static position at the beginning of 1976. One can readily see that the bulk of those countries with high telephone penetration—U.S., Switzerland, Denmark, Canada, U.K.—tend to have compar-



tively low growth, while countries like Brazil, Mexico, and the USSR are obviously striving to catch up. Less obviously, France shows rapidly accelerating growth—an index of that world while it very profitably served Bell.

But even vast markets have their limits. Nearly 80 per cent. of Americans have a telephone of their own, and Californians have more than one each (including the newly-borns). The nation's capital, Washington, has 1.5 telephones per person, leaving Bell in the well-known but uncomfortable position of ice-cream vendor to Eskimos. There is, of course, a well-developed campaign which continues in the American media aimed at persuading the world's richest people to have telephones in rooms previously free of them; but that, too, has limits. Western has been forced in recent years to look east, north and south as well as west in its search for profitable markets. Indeed, if it does not find some new frontiers rather quickly, it may begin to show signs of strain.

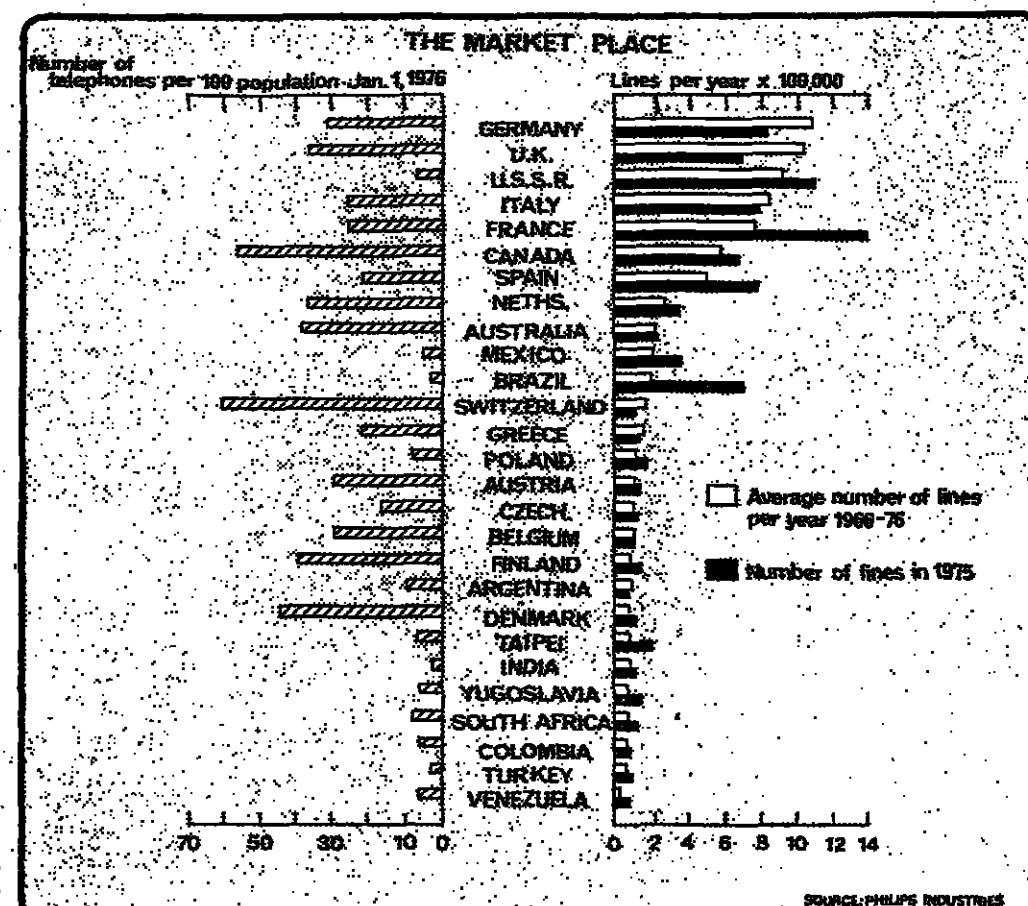
Its wholly unwelcome (to the other manufacturers) entry on to the world stage has meant that ITT, which had always regarded the world as its oyster bed, has a major new competitor. While the other companies have another American giant to

teed a massive market for deal with. The customer—especially the PTIs of the developing world—will find themselves even more assiduously courted than before.

The major targets of these companies are the Middle and Far East (especially the former, because the oil-rich countries tend to order the most technologically advanced equipment irrespective of cost); Latin America, especially Brazil; Africa; and to a much lesser extent, the Soviet Union and Communist Europe. Sir William Barlow, chairman of the Post Office, said in the recent interview that the 1980s would be the decade of telecommunications expansion in the Third World; it may be that the expansion has already begun.

As for the domestic markets, those which still have plenty of growth left in them (as in the U.K.) seem unlikely to be opened up to the free flow of competition in the near future— if anything, the tendencies are protectionist. The bitter winds of competition overseas, which we have noted above, mean that companies will come to depend increasingly, like it or not, upon their home bases; their importance as employers will mean that Governments are unlikely to challenge their versions of what is good for them.

J.L.



Service CONTINUED FROM PREVIOUS PAGE

there is a limit to the satellites it is possible to have operating simultaneously over the equator, while they do not solve all transmission problems. Latterly strategic questions have crept into the background of the argument, particularly since the Soviet satellite crash in Canada.

Meanwhile the satellites are operating in the overcrowded bands below 10GHz and are not likely to start using those over 14.5 GHz till the 1980s, with Europe investigating 10.95/14.5 bands for its own satellite system.

In the last two years or so, confidence in the future of telecommunications systems that harness the potentially enormous message carrying capacity of laser beams has grown with the availability of improved small lasers to produce the modulated beams—again a spin-off from advances in electronic circuit technology.

Ted Schoeters

CA·PA·BIL·I·TY:

THE QUALITY OF BEING CAPABLE.

In the world as a whole, there are fewer than 10 telephones per hundred population. This compares with 50 or 60 telephones per hundred population in many industrialized countries.

The provision of basic telephone service is thus a very real need in many parts of the world.

Concurrently with this need, the technology of telecommunications is changing and becoming more sophisticated.

With the transition from electromechanical systems to electronic systems, telecommunications administration



Ericsson's AXE public telephone exchange switching system has been approved and selected by telephone administrations in Australia, Denmark, Finland, France, Kuwait, The Netherlands, Panama, Saudi Arabia, Spain, Sweden and Yugoslavia.

tions now have access to systems offering more and better facilities than ever before. As a result, new demands and new markets are opening up even in industrialized countries where the need for basic telephone service has already been largely met.

On the one hand, the new sophisticated technology offers tremendous advantages to both administrations and subscribers.

On the other hand are the huge investments involved and the pressures to keep costs at a minimum. There is also the fact that for developed countries existing equipment defines the technical, operational and financial environment into which new equipment is introduced.

For most administrations, however, the advantages of the new technology are such that the main dilemma is not whether to introduce it, but how to gain the fullest possible freedom to plan and control its rate of introduction and penetration into their networks.

System capability

Full awareness and understanding of the dilemmas and problems of administrations is a prime requirement for manufacturers.

Only then it is possible to market the right systems at the right time to give administrations the planning flexibility they need.

Ericsson's unique AXE switching system and the new DIAVOX family of telephone instruments and systems are two products developed in full awareness and anticipation of administrations' needs.

Among its many advantages, for example, AXE offers a choice of analogue or digital switches. It thus not only provides administrations with unequalled freedom in planning for maximum network economy, but also provides "future proofing".

In the new DIAVOX family, the modular design approach not only ensures minimization of total cost, but also makes provision for the addition of future technical developments.

"Supersystem" capability

With the transition in telecommunications technology, new skills have to be built up.

Long-term commitments on the part of suppliers, always important, have become even more vital. Particularly in countries still at a comparatively early stage in the build-up of their telecommunications systems.

The transfer of technology, knowhow and skills has become as important as part of long-term customer relationships as the selling of the hardware itself. Local manufacturing also becomes an important consideration.

This means interworking with customers not only at the system level, but at the "supersystem" level as well.

It means the willingness and capacity to take part in network planning, system interwork, operation and maintenance procedures, staff planning, economic analysis and administrative procedures and, not infrequently where long-term capital may be tied up for extended periods of time, participation in investment planning.



DIAVOX—DBA 100—is more than a new telephone. It is a complete new approach to telephones. More than 400,000 have been ordered by Saudi Arabia along with AXE switching system.

It means installing and commissioning support and planning support for future development.

It means comprehensive training capabilities, complete documentation, and in general readily available technical support.

It means advanced research and development facilities

designed to meet or anticipate the growing needs of customers around the world.

Not least important, it means keeping to delivery schedules.

Doing it the hard way

At Ericsson, we've developed our system and "supersystem" capabilities the hard way.

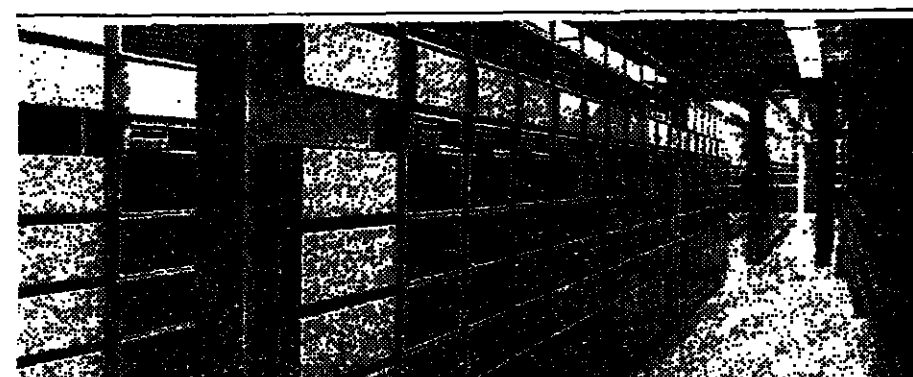
No diversification.

No conglomeration.

But a lot of hard work and attention to detail specializing in what we know best... the telecommunications business.

As a result, we are today one of the world's major telecommunications manufacturing groups with more than 70,000 people worldwide, some 70 factories in 15 countries, operations in more than 100 countries and annual sales in 1977 exceeding 880 million pounds.

We're also one of the few—very few—organizations with the across-the-board capacity, knowhow and experience to design, manufacture and install complete telecommunications and telecommunications-related packages virtually anywhere in the world.



ARM transit exchange, Mollison International Switching Centre, London. The ARM first stage of the Thames International Switching Centre, London, is scheduled to go into service this year, with the AXE system second stage scheduled to go into service in 1979. A significant part of the equipment for these exchanges was manufactured in Thorn-Ericsson's plant at Scunthorpe, South Humberside.

For details, write to: Thorn-Ericsson Telecommunications Ltd., Horsham, Sussex, RH13 5QF or group world headquarters, Telefon AB LM Ericsson, S-126 25 Stockholm, Sweden.



The Ericsson Group
Partners in telecommunications progress worldwide

Electronics Weekly

Communications of the first kind.

Every copy of Electronics Weekly is a close encounter with two worlds—the telecommunications and the electronics industry. A quality subscription newspaper, Electronics Weekly is specifically designed to provide you with a full briefing on every factor important to senior management decisions. Competitor activities... prices... new products... takeovers... government plans, legal and financial... export

opportunities... stock exchange developments... future trends... Electronics Weekly reports in depth on all these areas, giving you a regular insight into where both industries are heading—and what your competitors are doing. 52% of its readers are in financial or general management—which makes Electronics Weekly not only essential reading for you, but the natural medium for launching new products, selling overseas (there are 10,000 European

readers) or announcing plans. For a specimen copy, and information on news and features coverage, contact Roger Woolnough or Brian Moloney on 01-261 8000. Or write to them at the address below.

Electronics Weekly
communicates the facts

Published by: PC Electronics Press Ltd.
Dorset House, Strand and Over, London WC2R 3GU
A member of IPC Business Press Ltd.

Saudi Arabia makes telecommunications history

The Government of the Kingdom of Saudi Arabia recently awarded the Philips-Ericsson-Bell Canada Consortium a contract for, what is believed to be, the largest telecommunications project in history.

Within a period of three years the present automatic telephone network will be increased in capacity by 476 000 lines, and extended throughout the kingdom.

Philips, who share equal responsibility with Ericsson for equipment supply and installation, will deliver 56 stored-program controlled PRX switching systems for local exchanges

(of which 13 will be containerised) as well as all PCM equipment for the junction routes in the multi-exchange areas. Bell Canada will be responsible for system operation and maintenance for a period of five years.

The logistics of this turnkey project, which has a total value of over U.S.\$3 billion, are prodigious. During construction more than 1000 employees and their families will be accommodated in model villages built specially for the project. No less than 200,000 cubic metres of materials and equipment will be transported to Saudi Arabia and distributed to work sites throughout the kingdom. And to provide a direct means of communication between the various sites, a private radio network must be established.

Other joint responsibilities of the Consortium include the training of up to 800 local PTT staff on the operational, maintenance and servicing aspects of the computerised network. This will be carried out in specially equipped schools and repair centres.

An important part of the Government's second five-year plan, whose aims include diversification, industrialisation and the rapid development of education and social services, this ambitious project will firmly establish the Kingdom of Saudi Arabia at the forefront of modern telephone communications.

Philips are proud to help set the pace

Philips Telecommunications
Hilversum, Netherlands

Opportunities in aviation

WITH CLOSE to 25,000 civil aerodromes throughout the world (including the Soviet Union), and with over 620m passengers a year being carried on scheduled air services, it is clear that aeronautical communications is not only one of the vital, but also one of the biggest, aspects of the communications industry worldwide.

It is also one of the most complex, for it involves not only the problem of voice communication between the ground and the many thousands of civil aircraft of all sizes in the air around the globe at any one time, but also the constant transfer of information to and from those aircraft concerning their current positions, their flight paths, and their immediate intentions.

The one factor governing all civil aviation communications is that of safety. By ensuring that not only the pilots, but also the air traffic controllers on the ground, know exactly where any given aircraft is at any moment in time, and where it is going, the primary requirement for aviation safety can be established. Thereafter, by a process of continuous monitoring, it is possible to continue to guarantee that safety at least to within reasonable limits.

For this reason, after the provision of aircraft and airports themselves, the biggest single volume of money that is spent in worldwide civil aviation is spent on communications of all kinds—in the provision of radar to help air traffic controllers pinpoint the position of aircraft in the sky, of ground-based radio navigation aids such as beacons en route to enable pilots virtually to pick their way through the sky, and of instrument landing systems to enable them to arrive over the runway thresholds secure in the knowledge that they are not going to find other aircraft in the way.

The list of specialist requirements for aeronautical communications is endless. It includes the provision of aircraft-to-aircraft and aircraft-to-ground voice communications, both en route and in the increasingly congested areas around the approaches to major inter-

Traffic

This has given rise to a problem that is causing some concern to the world's aviation authorities—especially those with smaller budgets to spend on this area. This is that the continuing increases in traffic are approaching the point where many States can no longer afford the large sums required either to introduce the new facilities, necessary, or to maintain at an adequate level those facilities they already have, so as to ensure the necessary high standards of safety.

This, in turn, is placing a considerable burden on the financial resources of the International Civil Aviation Organisation (the aviation technical agency of the United Nations), to ensure that worldwide a uniform standard of communications, and hence also safety, is maintained, and it is likely that some of the more highly developed aeronautical States in future will have to subscribe more cash than at present to ensure that those standards are maintained. For example, an airliner leaving the comparatively highly-developed, aeronautical communications area of North America and Western Europe is entitled to expect that on approaching an area such as

the Middle East, South-East Asia, or Africa, the same standards of communications capability will prevail—that the navigational aids in terms of radars and radio communications will at least be adequate to ensure a safe arrival at the planned destination airport.

In order to achieve this, the ICAO itself regularly produces what is called an "Air Navigation Plan" for each of nine major aviation regions of the world, which sets out what it considers to be the minimum necessary requirements for safe and orderly air navigation within the region concerned. The requirements take the form of "recommendations"—the ICAO is not in any position to instruct—and the overall aim is to ensure that individual States, in financing and implementing their own civil aviation development plans, adopt systems that will dovetail with those of adjoining States in the same region, and with those in regions adjoining it. Each of these Air Navigation Plans contains recommendations for the installation of radars, instrument landing systems, voice communications, and other systems sufficient to enable civil aviation to be continued without unnecessary disruption. Each Plan is regularly updated, both in the light of the progress made by individual countries in meeting the earlier suggested developments, as well as in the light of improved techniques emerging from the manufacturing of the various types of equipment.

One of the biggest problems, of course, lies in the different rates of implementation of these Plans. It is not uncommon within any given region to find one State ahead of another in introducing, say, Instrument Landing Systems, and even within any given State a marked difference can often be found in the standards of equipment between one airport and another.

The governing factor is, of course, money, and there is no way in which the ICAO can force any State to spend more than it chooses or can afford on the provision of navigation and other aids for greater aviation safety. The result inevitably is that in some parts of the world the rate of progress in improving aviation communications is much slower than in others, and that there are some airports which organisations such as the International Federation of Air Line Pilots' Associations regard as sub-standard to the point of being hazardous, the worst of them rating the IFALPA "Black Star". This is more than just a publicity factor—in the countries concerned the individual local pilots' associations are able to bring considerable pressures on their governments to bring the standards of a given airport up to an acceptable international level.

Direct

Probably the biggest single new development in aviation communications—interpreting this to include the provision of navigation information as well as direct voice communications—lies in the impending introduction of Microwave Landing Systems (MLS) for the 1980s and beyond. In its simplest terms, this means the provision of a new type of aid that will supplement and eventually replace the current Instrument Landing System whereby an airliner in flight can be guided from the ground down to a safe landing in all weather conditions by night as well as by day. The current types of ILS that are available are restricted in the number of aircraft they can cope with at any one time, and the function of the proposed new MLS is to increase the volume of traffic that can be accommodated with safety in the final stages of the approach to landing so that runway utilisation can be increased. At present, the All-Weather Operations Panel of the ICAO is studying two broad types of MLS—the British-proposed Doppler system, and the U.S.-proposed Time Reference Scanning Beam system. Each side tends to argue that its own development is the best for the future, and the ICAO panel will have a difficult task in choosing between them this spring.

The struggle between the rival systems has been intense, and sometimes even acrimonious, and is not yet over, with comparative trials of both still in progress at various major airports throughout the world. It can be—and is—argued that at a time when many airports throughout the world still do not even have present-day types of Instrument Landing Systems, it is almost academic to even begin to consider which type of system should replace them for the rest of this century. But the counter-argument is that it is never too early to start thinking about methods of improving aviation safety through better navigational and landing aids, especially at a time of expanding aircraft traffic, and while it is accepted that with MLS (whichever system is chosen) will become increasingly available through the 1980s, there will continue to be side-by-side a continued demand for ILS especially at smaller airports which do not have the volume of traffic to justify MLS.

Michael Donne
Acraspace Correspondent

International networks

FORECASTS and surveys are useful in indicating a trend and most industrialists would absorb several of them, add their own private information plus a large grain of salt, and then take action.

But so far as terminal use is concerned, there can be no doubt about the explosive growth rate, since in two short years the predicted figure for Europe by 1985 has about trebled to 2m, of which 400,000 are in the U.K. This Packet figure shows, as Holman Hunt pointed out recently, that terminals will become as common as telephones and not solely because of their use with computers by any means.

This predicted growth in terminal populations presupposes a parallel growth in international networks such as Euronet, which at the start of 1979 will be available to provide access across Europe to vast amounts of information in various scientific centres. It will also allow major interconnections between high street shops and local bank networks so that customers can pay for their weekly shopping by magnetic card. It takes into account the growth of Swift—the international banking transfer network—and of the many transatlantic services from bureaux and databanks in America.

Battleground

But in that country, at the present time, battle lines are being drawn on two fronts and the strategies to be used, and the outcome of what could be fierce warfare, will undoubtedly affect Europe.

The first battleground is in data transmission with a three-cornered fight promised between the existing packet-switched networks typified by Telenet, the entrenched might of AT and T which holds 80 per cent of public telephone traffic, and Satellite Business Systems backed by IBM.

Packet-switching, invented in Britain at the NPL by Davies, is a means of transferring large amounts of data across available lines at high speeds, keeping line traffic close to optimum. The "packets" are messages

with a guiding head code. It is already estimated that if private users could use such services in Europe for messages rather than their being limited to conversations with a databank computer, communications rates one-tenth of those of telex would result.

SBS is proposing to provide, by 1983, a service covering 48 of the American states operating through one or two satellites in geostationary orbit above the equator in the South Atlantic and 375 ground stations. This service will provide total communications—data, voice, facsimile and video. It may, for instance, be used between a number of computer sites serving a large multinational group to give a quantum jump improvement in information handling.

Existing satellite service providers such as RCA have made a number of protests and the Federal Communications Commission has intervened to place a number of trammels on SBS (IBM) but there seems to be no doubt that experimental transmissions will go ahead as and when IBM decides and that the programme will progress to the set timescale, which includes an experiment to be up and working in a year or so.

AT and T did not believe in packet switching when it first appeared on the scene but is now planning its own super packet service, Bell Data Network (BDN) which will be launched next year and provide several levels of service between message transit times of 0.2 seconds and four hours. The shortest times are equivalent to Telenet and Datapac (Canada) as well as Euronet (Europe). The longer times indicate storage and this is exactly what BDN proposes to do—but also being transmitted in ways other than simply reading the head code to achieve the proper routing of the message. And there's the rub!

Theoretically IBM should not become involved in common carrier work. Neither should "Ma Bell" become involved in computing. Is it surprising therefore that analysts, including Frederic G. Wittington of

Arthur D. Little and Charles P. Lecht, Advanced Computer Techniques, predicted at the DataComm conference in early March that the two giants would have a major clash, but that U.S. legislators did not realise its significance?

By 1983 close on 90 per cent of all computers installed will have some form of communication facility. If SBS dreamed off all or a good part of this traffic for its satellites, AT and T would stand to lose vast sums in terms of line plant outmoded or under employed—as much as \$200m, one speaker said. It should be remembered that IBM

CONTINUED ON
NEXT PAGE

Microprocessor controlled dot matrix teleprinters

Transtel teleprinters are made to help you meet the most exacting telecommunications requirements. Quiet, reliable and moderately priced, Transtel microprocessor-controlled dot matrix teleprinters are the direct result of years of experience meeting the needs of customers worldwide.

All our teleprinters, from the B315 ASR to the AHR Receive-only printers offer multi-copy print speeds from 50 Bauds (Telex) to 225 Bauds; Polar, Neutral or V24 interfaces; minimum mechanical parts.

The B315 ASR also offers a typewriter keyboard layout and, should you wish to do away with perforated tape, a unique word-processing memory to prepare and edit your messages.

TRANSTEL

Transtel Communications Limited,
Mill Street, Slough SL2 5DD Berks., England
Telephone: Slough 26955 Telex: 849384

Philips
Telecommunications



PHILIPS

COMMUNICATIONS VII

Teletext being put to the test

TELETEXT, WHICH here believes that shortage of sets, rather than lack of public enthusiasm, may be the major constraint on Viewdata and general teletext usage in the early years. If true, will that, yet again, open the door to the Japanese?

5—Is Viewdata itself, as a technical system, resilient enough? Are the telephone lines free enough of interference: does the system "crash" too often: do the sets "go on the blink" too often: is telephone dialling reliable enough — to provide an easy-to-use general public service?

6—Is the indexing of material on Viewdata — a complex tree structure in which, some fear, the average person will get lost in the wood — a deterrent to broad public acceptance?

7—And will people pay for information when the charge for it is displayed (as it will be on Viewdata) in front of their eyes? Or will it be just business users, accustomed to paying for information already as a commercial tool, who accept this as part of life?

8—What will the role of advertising be on teletext systems? Indeed, what is the definition of advertising in this new context? As far as Viewdata is concerned, all the information providers (to use the jargon) will be paying the Post Office to put information on the Post Office computer (or, in due course and at a cost, on the computers as they begin to dot the country), and the big corporation that, for example, pays to put an advertisement in the Financial Times, could on Viewdata just as easily "rent" space itself to display its message. Whether there will be grounds for surcharging such corporations for appearing, not on their own but within and alongside of the information provided by another party, like a professional publisher, remains to be seen.

9—Also on advertising, the question of whether there should be a code to govern whatever is defined as advertising on Viewdata, and if so who should administer it, is under discussion. Given the ease with which material can be deleted or amended (virtually instantaneously) and the sheer volume of material that may be on the system, it could be impossible to keep track of it in the way that ITV does, by formal vetting before showing.

10—Will teletext be left in the hands of its present organisers? Or will it one day be hived off, perhaps as a unified but separate service?

11—Will people read text at all on a (slightly flickering) TV screen? The future of teletext, as of the idea of the domestic all-purpose video-terminal and the general business terminal, depends on the answers to these questions. But since the requirement is a forecast till 1987 meeting the call for a unification of the whole European system starting in 1990, the sum is not exaggerated.

Logic's Philip Hughes sees no real problem in using a European satellite system as a means of expanding traffic capacities within the area. The real problem could arise if SBS extended its services to Europe and absorbed lucrative traffic before European-controlled systems were ready. IBM will soon use satellite links between the US and Europe as a matter of routine.

Opinions vary as to how many will use Euronet from Britain. Transpac leaders have no qualms. They forecast 1,500 links in the first year of service (1979) rising to 120,000 in France by 1985. This clearly refers to packet switching used preferentially as a means of channelling data.

Transpac also suggests something the P.O. may not like—a guarantee of line quality and data accuracy carrying a penalty to be paid to users if the guarantee is not met.

Meanwhile, overshadowing all the foregoing is the question of national frontiers which is so acute that it has led a former official of the White House Office of Telecommunications to say that many of the countries resisting or blocking the export of information from U.S. data banks are not concerned with

competition in a literal sense. "They are resisting what they call electronic colonisation... they do not want their lives to be Americanised, Anglicised or Sotified."

Behind this somewhat emotional outburst lies the cold fact that most European countries have shown themselves to be more concerned with the rights of the individual to data privacy than America has, so far, largely because of the latter's putting free enterprise before everything.

But Canada has already made it clear that it has strong objections to the amount of information on industry and commerce flowing into and out of U.S. databanks. And, one could ask, why stop at industry and commerce?

The US authorities have a few more months in which to make clear what their attitude will be to the control of trans-national data and whether U.S. databank operations will be required to respect privacy laws applied in other countries, even when the latter happen to be "pocket handkerchief sized."

It is already difficult in Britain to converse with a computer which persists in sending wrong bills or unwanted literature. How much more difficult is it going to be to get wrong or illegal information held in a databank in Florida corrected or deleted?

comes one step nearer. But what connection, if any, there will be between the TV set-terminal and the general purpose Video Display Terminal, and indeed between the sets of information available to them, remains to be seen.

But it is undoubtedly the business world which is feeling (or at least evaluating) the impact of these new systems at present. This is true both in market-making areas, where VDT-based systems supply rapid price information and may indeed provide the actual market-place for transactions in stocks or commodities (see, for example, the development of the Reuters Monitor or its new challenger in Europe, the AP-Dow Teletext system); and in the area of corporate information, where large companies with substantial needs for, and staffs to cope with, information of all kinds pertaining to the company, its customers and its market place, have been in the forefront in evaluating or indeed sponsoring the development of electronic databases.

For at the heart of the unlovely vocabulary spawned by modern electronic information systems—words and phrases like "information systems," "data and database," "store and forward," "input and access"—lies the deep ambiguity about the meaning of the word "communications" itself. It can signify both the vehicle for transmitting the information—the line, even the train—and the information so transmitted and the meaningfulness, or otherwise, of that information to the person who gets it.

At its best, however, modern technology is trying to provide the answer to the dilemma that it has itself posed. Having been responsible, in part at least, for the massive information explosion from which the Western world, and particularly the business and scientific world, is suffering, it can now provide the selective search techniques and many systems (for example, the American Lexis system, a legal database) still operate with dedicated terminals.

But the important thing is that there is a fast rate of commercial growth predicted for this type of electronic information system, which will benefit at least those that already hold information in some electronic form (for example, for computer type setting); for those that do not, it must be admitted, the economics of this type of business are more complicated. With the development of Euronet as a European "data highway" to be the equivalent of such U.S. data highways as Telenet and Tymnet, the business of shunting information around Europe, indeed round the world, for eventual reading on some common, all-purpose terminal,

comes one step nearer. But what connection, if any, there will be between the TV set-terminal and the general purpose Video Display Terminal, and indeed between the sets of information available to them, remains to be seen.

But it is undoubtedly the business world which is feeling (or at least evaluating) the impact of these new systems at present. This is true both in market-making areas, where VDT-based systems supply rapid price information and may indeed provide the actual market-place for transactions in stocks or commodities (see, for example, the development of the Reuters Monitor or its new challenger in Europe, the AP-Dow Teletext system); and in the area of corporate information, where large companies with substantial needs for, and staffs to cope with, information of all kinds pertaining to the company, its customers and its market place, have been in the forefront in evaluating or indeed sponsoring the development of electronic databases.

Ambiguity

For at the heart of the unlovely vocabulary spawned by modern electronic information systems—words and phrases like "information systems," "data and database," "store and forward," "input and access"—lies the deep ambiguity about the meaning of the word "communications" itself. It can signify both the vehicle for transmitting the information—the line, even the train—and the information so transmitted and the meaningfulness, or otherwise, of that information to the person who gets it.

At its best, however, modern technology is trying to provide the answer to the dilemma that it has itself posed. Having been responsible, in part at least, for the massive information explosion from which the Western world, and particularly the business and scientific world, is suffering, it can now provide the selective search techniques and many systems (for example, the American Lexis system, a legal database) still operate with dedicated terminals.


But the important thing is that there is a fast rate of commercial growth predicted for this type of electronic information system, which will benefit at least those that already hold information in some electronic form (for example, for computer type setting); for those that do not, it must be admitted, the economics of this type of business are more complicated. With the development of Euronet as a European "data highway" to be the equivalent of such U.S. data highways as Telenet and Tymnet, the business of shunting information around Europe, indeed round the world, for eventual reading on some common, all-purpose terminal,

comes one step nearer. But what connection, if any, there will be between the TV set-terminal and the general purpose Video Display Terminal, and indeed between the sets of information available to them, remains to be seen.

But it is undoubtedly the business world which is feeling (or at least evaluating) the impact of these new systems at present. This is true both in market-making areas, where VDT-based systems supply rapid price information and may indeed provide the actual market-place for transactions in stocks or commodities (see, for example, the development of the Reuters Monitor or its new challenger in Europe, the AP-Dow Teletext system); and in the area of corporate information, where large companies with substantial needs for, and staffs to cope with, information of all kinds pertaining to the company, its customers and its market place, have been in the forefront in evaluating or indeed sponsoring the development of electronic databases.

But it is undoubtedly the business world which is feeling (or at least evaluating) the impact of these new systems at present. This is true both in market-making areas, where VDT-based systems supply rapid price information and may indeed provide the actual market-place for transactions in stocks or commodities (see, for example, the development of the Reuters Monitor or its new challenger in Europe, the AP-Dow Teletext system); and in the area of corporate information, where large companies with substantial needs for, and staffs to cope with, information of all kinds pertaining to the company, its customers and its market place, have been in the forefront in evaluating or indeed sponsoring the development of electronic databases.

But it is undoubtedly the business world which is feeling (or at least evaluating) the impact of these new systems at present. This is true both in market-making areas, where VDT-based systems supply rapid price information and may indeed provide the actual market-place for transactions in stocks or commodities (see, for example, the development of the Reuters Monitor or its new challenger in Europe, the AP-Dow Teletext system); and in the area of corporate information, where large companies with substantial needs for, and staffs to cope with, information of all kinds pertaining to the company, its customers and its market place, have been in the forefront in evaluating or indeed sponsoring the development of electronic databases.




We design, install and maintain telecommunications systems-worldwide.

Our global organisation is uniquely qualified to meet your requirements, no matter how large or how small they may be. We can plan, design, engineer and install a complete telecommunications system for you, be it telephone, telex, telephony, television, data—using public service or private networks—we're ready to provide. We can operate, manage and maintain the system; train technicians, engineers, managers and operators.

With over a century of experience and our liaison with Telecommunications Administrations, our up-to-the-minute expertise is relied on by national and international organisations, oil companies, airlines and aviation authorities, banks and shipping the world over.

So, if you feel you'd like more information, why not do a little communicating yourself. Contact us.



Cable & Wireless

Always a step ahead of today's communications

Head office: Mercury House, Theobalds Road, London WC1X 8XN Tel: 01-242 4433 Telex: 23181

Ask yourself whose 2-way radio YOU would put your money on.

All 2-way radio in use in Britain in 1978—not just Pye, all other makes too—is built to satisfy a minimum specification set by the Post Office. But minimum specification may not be up to your standard.

So how do you choose whose? Just read on, crossing out wrong answers as you go.

Whose choice of 2-way radio would you respect most?

Top People's/top business's/top drivers'/cab drivers'/messenger boys'/politicians'. (Depends who you look up to, of course. But Pye 2-way radio is the choice of people who make a living heading states, launching ships, running industries, winning battles, carrying cash and heaving hay.)

How long would you expect your 2-way radio to last? 4 years/7 years/10 years/over 10 years. (Both question and answer are academic. Pye design 2-way radio for performance reliability—and durability is an inevitable by-product, since there is no question of built-in obsolescence. But, at Pye, the advance of technology is irresistible. Long before 1988, you will almost certainly wish to switch to take advantage of it—however much life your 1978 Pye 2-way radio has left in it.)

What type of vehicle would you wish to equip?

Chiefly tank/bulldozer/farm tractor/truck/Mini/limousine. (Oh, go on, say "tank"! If your 2-way radio is rugged enough for that (and Pye's equipment is, it'll take anything. And Pye Bearers—which are simply weatherised versions of our famous Olympic sets—have served faultlessly at -30°C and +60°C, which is 140°F. So, even if you propose armoured manoeuvres in Greenland or the Sahara, whatever the vehicle, Pye fits.)

Assuming you had 2-way radio now, how would you feel about a massive service organisation behind it? Impressed/glad/safe/reassured/worried. (Pye, whose service organisation is the only massive one, point out that, if it worries you, you're probably also frightened by hospitals. Service back-up, in Pye's view, is vital. There are 250,000 2-way radios in the U.K. 180,000 of them are serviced by 500 Pye engineers with 250 Pye vehicles in 24 Pye locations—which also do installations of 2-way radio. So everything's near, which means quicker, which means cheaper.)

What should you do about an aerial site for your 2-way radio system?

Clear some ground/reinforce a roof/buy a hill/duplicate the P.O. Tower/ask your wife/chicken out. (Don't do the last. Any problem is probably easily solved. Years ago, Pye—recognising the potential value of Britain's old Roman beacons—arranged transmitter/receiver sites accordingly. Now Pye's own facilities serve legions of Pye customers, none of whom have had to worry about frequency allocation, planning permission, signal coverage area and paper work. That's our job.)

We could go on. But you get the idea. If 2-way radio is an inevitable acquisition sooner or later, with Pye it may as well be sooner. Because a whole system—including aerial and transmitter—could cost you considerably less than, say, one more secretary. We go into all the details of costs in this new booklet.

Get your free copy now! Simply cut out this advertisement, write your name and address here.



and send it to the address below. 35/FT/29/3
Better still, write us a letter, or telephone
Terry Hopkins on CAMBRIDGE (0223) 61222

 **Pye Telecommunications Ltd**
St Andrews Road Cambridge CB4 1DW



Ted Schoeters

International

CONTINUED FROM PREVIOUS PAGE

has a developed computerised PABX that has been launched in Europe but not the U.S.

AT and T is not waiting for its goose to be cooked and is working on what analysts have called the ACS, or advanced communications system, that would do much of the work on data transmitted over a network that is now done in the main computer or its communications processor.

This is a fascinating subject but speculation on the outcome is complicated by the U.S. Government's anti-trust action against IBM and barely veiled threats of similar action against AT and T.

What of Britain, where packet switching was conceived? It may be a grossly unfair thing to reveal, but in my files on data transmission studies there is a document produced at the Post Office's behest and containing the results of investigations into demands from the U.K. computing fraternity for a data network separate from the public telephone network printed back to front—and that is not lateral thinking!

PO resisted demands for this network, dillied with packet switching, dallied with store and forward solutions, and allowed France to progress so quickly with its own Transpac network that when the choice was made of the system for Europe, neither of the U.K. solutions was selected. Logica of the U.K. and SEMS of

France, working with Philips, were outright winners about a year ago in the bid to set up Euronet, principally because their proposed system was designed on the basis of Transpac, with ability to become a public service.

The Leasco/Ferranti proposal was based on the EPSS (experimental packet-switched system) set up primarily around British Steel's requirements with PO blessing. A third contestant included Plessey.

Significant is the fact that Transpac/Euronet conforms with X25, a "translator" or interface which allows outside users access to a switched network adopted as standard by CCITT, the European telecommunication standards body.

EPSS did not conform at the appropriate time. Also, IBM has offered an adaptor which allows its equipment operating under the company's preferred telecommunications regime to communicate with Transpac systems. The inference is clear. Euronet charges have recently been fixed by the PO and there has been some surprise that they are not distance dependent and will not be, even when the network becomes public. There is a volume charge and a weighting for duration.

Logica and its partners have just won the coveted Eurodata study of the future of communications systems in Europe. The two year study may require an expenditure of about £1m.

COMMUNICATIONS VIII

How many directories do you use?

Probably not enough;

but have you ever tried
producing one?

Those who have will tell you of the headaches involved—constant proofing and checking, misplaced corrections, bad paste-up, last minute alterations—all to be repeated at the next publication date.

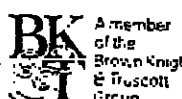
However good news, the revolution in typesetting sequential data has arrived. The Information Services division of Brown Knight & Truscott has installed what we believe is the most comprehensive and sophisticated computer aided photocopying system operated by any commercial printer in the UK.

Our customers in the directory publishing business welcome the revolution and the security of the system is enormously beneficial for our customers with sensitive financial work. Even if you do not fit into any of these categories you may still have experienced the problems of updating information prior to printing and if this is the case you should contact—



Information Services division
Brown Knight & Truscott Ltd

Dowgate Works, Douglas Road,
Tonbridge, Kent TN9 2TS
Tel: Tonbridge (0732) 351216 Telex: 95573



Today you can market
Internationally,
by providing free
International
telephone links
for your clients
connected to
your desk in
London.

Expand your
international
markets....



Through
Service
800



For further details Telephone (01) 723 1092 or see us on
STAND 4102 Communications 78
at the National Exhibition Centre, Birmingham, 4th-7th April

Design and Development Engineers HF and Satellite Communications

International Marine Radio Co. Ltd., part of Standard Telephones and Cables Ltd., is the leader in the field of maritime HF communications and is now advancing into the satellite era.

Here is an important opportunity to join an expanding team engaged in the design and development of HF and satellite communications equipment for the marine field. The work requires familiarity with modern solid state technology in one or more of the following areas:

Small signal linear circuit design
TTL/ECL digital techniques
Micro processor software and hardware design
HF receiver and transmitter design

The positions offer first class career opportunities for both male and female engineers qualified to degree/HNC standard and with two-five years experience. There are also several openings for newly qualified graduates to obtain invaluable experience at an early stage in their careers.

Please write with brief career details or telephone Jonathan Smith, International Marine Radio Co. Ltd., Peck Road, Croydon CR9 3AX. Tel: 01-884 9771.

STC Changing the face
of communications worldwide

DIRECT SYSTEMS LIMITED

Telephone equipment for Bankers, Brokers, Dealers, Travel Agents, Airlines and all organisations requiring instant connection to direct or exchange lines.

Approved and working in many parts of the world. Every installation tailored to meet the customer's particular requirements.

Modern design using plug-in printed circuit boards, solid state devices and reed relays, careful manufacture and thorough testing ensure reliable service at competitive prices.

Modular construction allows rapid delivery. Pre-cabling with plugs and sockets enable quick installation and ease of subsequent rearrangement or movement.

For further details contact:

DIRECT SYSTEMS LIMITED
181a Long Lane, London SE1 4PN, England
Telephone: 01-403 0610

Advances with mobile radio

ONE OF the more encouraging success stories in the U.K. telecommunications industry generally rather dismal performance over the last few years has been the development of military radio and communications equipment.

The Clansman project funded by the Ministry of Defence and carried out jointly by Racal, Plessey and Marconi Space and Defence Systems (the GEC subsidiary) produced the world's first really modern family of front line portable radio sets. Its designers had to solve, in a sophisticated modern context, the problems first encountered by the Russian army during its ill-fated attempt to invade Prussia in 1914. Then, the Russian advance was too rapid to allow the inefficient telephone engineers to maintain links between the field units and headquarters. So the Russian commanders had to resort to

radio communications, and because not enough field operators were trained in cryptography, they communicated in ordinary Russian. These broadcasts were naturally intercepted by the Germans, who inflicted crushing and humiliating defeats upon the invaders.

Nowadays, when troops are much more mobile, and are in addition using sophisticated electronically controlled weapons, the need for rapid and secure communications is even more paramount. Furthermore, the speed of a modern battle makes it impracticable to expect soldiers in the field to decode messages. They must be able to speak directly to their commanders as the ill-fated Russians did in 1914. Modern radios solve this problem by making the machine do the encoding and decoding, so that although the soldiers are communicating as if by an ordinary telephone,

the signals which go out over the air would be a series of bleeps unintelligible to an enemy even if he were equipped with a powerful computer.

The details of how Clansman achieves this are, not surprisingly, a secret. However, it is known that the transmission is digital, which means the voice is encoded as a series of very rapid Morse code-like bleeps. Once the voice is changed into digital code it is possible to further scramble the signal with a variety of encryption techniques.

Multiply

One possible method, for example, is to multiply two very large prime numbers and use their product as the key to the code. It has been demonstrated that even with the help of a computer an enemy which intercepted the code number could

not deduce the two original factors which would be used for encryption. Even if he could deduce it, the knowledge would be of no avail because the encryption codes can be changed very rapidly—many times a second—by modern integrated circuit technology.

When it was first introduced, digital transmission had the further advantage that it could not easily be detected. To an ordinary receiver, the transmissions sounded only like a low hiss, probably indistinguishable from background noise.

However, all military advances tend to be followed rapidly by counter measures; and the technology which conceived digital transmission is now well able to detect it. An enemy which hears a transmission can inflict damage even if he cannot decipher the signal. Either he can direct a missile to home on to the signal, or he can send out a jamming beam to disrupt the communication.

For these reasons, the Clansman system, which has been the basis for a booming export performance by the U.K. firms which developed it, will itself be superseded. Most advanced countries are now starting to develop a new generation of mobile military radios which will be immune from present counter measures. The system most generally favoured at present is "frequency hopping" by which the signal is sent out not merely in a constantly changing code, but at continuously varying frequencies.

The message is divided into small "packets," each between a hundredth and a thousandth of a second long, depending on the system. Each packet is concluded by a coded signal to the receiver to change to a new frequency, which it does automatically. The main advantage is that an enemy is most unlikely to pick up a small burst of transmission lasting less than a hundredth of a second on any one waveband, and even if the signal were detected, it would be very difficult to follow through its rapid changes of frequency without enormous computing power. Moreover, if an enemy tried to jam the signal, he would have to spray a barrage of "noise" on to the airwaves which would inevitably

interfere with the communications of his own troops.

A further possible advantage is that, if the frequency changes are sufficiently fast, a considerable number of different communications channels could be interleaved on the same broad spectrum of frequencies without significantly interfering with one another. Whether this technique could have an advantage in civil communications has yet to be determined.

Certainly, digital transmission does have advantages in civilian context and it is already used, for example in paging systems. The main point is that, since digital transmission sounds only like a low hiss to the ordinary ear, it is much less likely to interfere with a conventional broadcast. Furthermore, digital transmissions can be multiplexed onto the same carrier frequency band, so that several conversations can be broadcast simultaneously, but they would be coded in such a way that each receiver would hear only the channel destined for itself.

In the field of military radio, the spin-off from developing the most advanced systems is of a different sort. Many developing nations, while recognising the vital importance of good radio links, do not require the sophisticated equipment which is being developed for the American or European arena. Racal, particularly, has built its phenomenal success on supplying this market with products which it developed from the know-how gained in the Clansman project.

Milestone

However, the next milestone in military radio development is altogether more ambitious. It centres on the development by the U.S. Department of Defense of a new series of tactical radios, probably based on the "frequency hopping" idea, which is scheduled for introduction by 1984, and which the U.S. at least would like to see as a standard throughout Nato. Tenders for the first development contract are now being assessed from four competitors: ITT, and three Anglo-American consortia. They are Racal with RCA, Plessey with GTE-Sylvania and Marconi with Cincinnati Electronics. This tender is for a "slow hop" system in which frequencies change several hundred times a

second. A second development contract for a "fast hop" radio in which frequencies change several thousand times a second is being competed for by Marconi with Cincinnati and Plessey linked with Collins, a Rockwell International subsidiary.

Similar developments are already under way in Germany, France and Holland to perfect an anti-jamming radio suitable for the battlefields of the 1990s.

On the civilian front, demand for mobile radio sets has been growing steadily, and it is forecast that by the year 2000, some 2m to 2.5m sets could be in operation in the U.K. This is based on the conservative estimate of a steady 10 per cent. growth, but represents a tenfold increase on the number of mobile radios in current operation.

The main problem posed by such an expansion is of frequency congestion. The 1979 world conference on the allocation of frequencies may therefore have an important bearing on the extent to which the appetite for private and business radio communications are allowed to develop.

A minor boom has already developed in the sale of VHF two-way radios for yachtsmen which are increasingly being seen as essential equipment in today's congested waters. Improved battery technology and the universal installation of marine motors, even in sailing yachts have combined with a steady fall in radio set prices, to make the general installation of radios seem feasible. The cheapest sets now retail at a little over £200.

There is, in addition, a growing lobby in favour of the allocation of citizens' band frequencies for use by private motorists and hobbyists. The fall in price of CB radios to a critical point at which they became a truly consumer item triggered an enormous craze in the U.S., which appears now to be tailing off. There again, the limiting factor has been the congestion of the airwaves which resulted when thousands of CB radios could be operating simultaneously in a given area. So in spite of pressure from manufacturers and potential groups of users, there is no immediate sign that CB will be allowed in the U.K.

M.W.

HARRODS WILL sell you a telephone from £47 to £425—not just one of the conventional handsets which have little changed in years but an antique phone on its own trolley or a red "hot-line" in its own box for which you alone have the key. Come to that, the Post Office itself will supply an antique style phone for an extra £85, or even a phone with Mickey Mouse holding the handset in his hand.

While such phones may seem an unnecessary luxury to many a harassed businessman, they are fast becoming the "in" symbol for the status-conscious executive. This attitude reflects the inherent paradox of the telephone. It is probably the single most important piece of equipment in the business world, yet instead of looking at ways to improve its effectiveness many executives can only consider its status value.

The telephone service within most organisations is inevitably given a low priority. It is considered as one of those activities that are ripe for economies by the cheese-paring mentality of many office managers. Yet it is only common sense—and backed up by numerous statistics—to consider how much potential business is lost by a poor telephone system. Moreover, that is without including the soaring industrial relations and multiplied clerical costs

which result just because the straightforward process of receiving and recording a message in some way breaks down. While the much-maligned Post Office cannot entirely escape blame for the wrong numbers and poor quality connections, the main problem is the ignorance of companies and degree of inefficiency that would not be tolerated in other sections of the business.

A number of big companies now have effective computer-controlled switchboards with a wide range of answering services, facilities for dictation, methods to call up messages on television screens, procedures to allocate priority to certain calls, and automatic re-routing codes.

Such systems are invaluable in preventing the incoming caller from feeling abandoned, as so often happens with conventional switchboards. The provision of such facilities is not exorbitantly expensive for the large organisation because the necessary data processing, which is what these activities entail, can be incorporated in computer systems introduced for other purposes.

A little imagination can also make the telephone into an invaluable aid without investing in complicated and expensive apparatus. The robot telephone answering device is one such development that has been exploited, as one of its many uses, for streamlining industrial relations and aiding recruitment.

But two major recent developments have made teleprinters into machines that can operate in a normal office. One is the Random Access Memory to replace perforated tape during message preparation; the other is the microprocessor replacing most of the mechanical parts of the rest of the teleprinter.

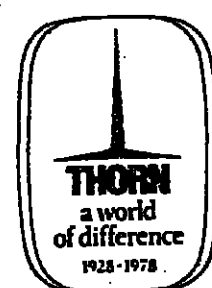
The random access memory store was developed for computer use. It is controlled by a microprocessor containing a suitable programme. It forms the basis of a message store that can be edited, separated from any number of messages, and transmitted. For nearly all teleprinter applications a store of 8,000 characters is sufficient. This represents about 120 lines of print—far longer than the average telex message.

The machine has no moving parts, comprising only the random access memory store itself (a few "chips" on a printed circuit board) and the microprocessor. Again, this is chip-sized and also controls the various other functions of the teleprinter, such as speed, system application and character definition. A handful of keys controls all the editing and printing control keys necessary.

Each character as it is keyed is allocated an address within the random access memory. A "pointer" moves along the addresses inserting the code for the characters as they are keyed on the keyboard. Insertion of additional characters (impractical on paper tape except by making a second tape) is simple: press the insert key with the pointer standing at the correct place and type in the necessary characters.

With the lack of mechanical parts in an electronic teleprinter, the top speed available is considerably increased. An operator, given a typewriter keyboard with the same touch as an electric model, will be able to type at up to 100 words a minute, one and a half times as fast as a telex. But this figure is an average, whereas operators can exceed perhaps 200 words per minute rate for a short period.

David Churchill



PARTNERS IN PROGRESS

THORN
ERICSSON
TELECOMMUNICATIONS LTD

Stand 4230

Financial Times Friday March 31 1978

N. Sea oil: The problems beneath the surface

BY RAY DAFTER, Energy Correspondent

THE Department of Energy will shortly announce plans for a new round of oil exploration concessions. At the same time it may well award a special package of drilling concessions to state-owned British National Oil Corporation.

Activity on these new blocks will help to answer some troubling questions, such as how much oil and gas remains to be found in British offshore areas so far unexplored and hence, how long the country can expect to remain self-sufficient in energy. The answers, however sketchy, will be crucial to both energy and economic policies.

The rapid build-up of North Sea production is tending to mask the oil industry's concern about its ability to maintain output in the second half of the 1980s. Anyone counselling the nation runs the risk of being called a kill-joy. After all, the oil output of the North Sea is now about 1m. barrels a day—half way to oil self-sufficiency. Within two years the U.K. will be completely self-sufficient, ranking among the world's top oil producers.

But a warning has been sounded by, among others, Mr. Ian Kirkby, general manager of British Petroleum's exploration and production department. He points out that peak production from the 20 or so fields now on stream or under development will be reached in three years' time. This maximum rate, although not the rate of new U.K. demand, will not last for long. Ten years from now output from these fields could have declined by half of their peak rate. The drop in production, if uncorrected, will come at an especially bad time since, if forecasts prove to be correct, will coincide with a worldwide shortage of oil supplies. The drop, almost inevitably, much higher crude oil prices.

However, U.K. self-sufficiency may be maintained, providing at over the next few years oil companies can be encouraged to exploit many more fields. There are some more worrying factors. Companies claim that it is now taking longer to obtain Government approval for field development schemes. There is uncertainty about future depletion policies.

Companies still have qualms about working increasingly closely with B.N.O.C. But, above all, it is becoming increasingly difficult to justify commercial development when costs are going higher and newly found reservoirs are becoming smaller.

It is generally accepted that the industry is already exploiting the largest, most obvious and structurally the simplest fields in British waters. What is far from certain is the number of reservoirs and size of recoverable reserves yet to be identified. British Petroleum, one of the most experienced companies in the North Sea, takes a cautious (it would say realistic) view. It puts ultimate recoverable reserves at some 22bn. barrels or around 3bn. tonnes. This means, according to B.P., that nearly half of the British oil resources are contained in fields already on stream or under development.

Pessimistic view

What is more, B.P. believes that another group of 20 fields, whose existence is known, contain about 5bn. barrels. On this basis the industry has located between two thirds and three quarters of all the oil there is to be found. The Department of Energy, now being advised extensively by B.N.O.C., takes a less pessimistic view. It is sticking by previous estimates that ultimate recoverable reserves could be between 3bn. and 4.5bn. tonnes, or between 22bn. and 33bn. barrels.

Only a further extensive exploration programme will verify or refute these figures. So far most of the wells have been drilled in the North Sea. But as offshore licence concessions come more widely spread so operators are being tempted into new exploration areas. The West Shetland Basin has been receiving greater attention from the industry in the past year, partly thanks to a couple of promising discoveries.

Mr. Dick Fowle, British National Oil Corporation's director of exploration, told a conference of oil equipment suppliers and service companies earlier this month that during the next few years over 10 per cent. of all offshore wells would probably be drilled in the West

Shetland Basin. By 1981 the industry could be sinking 64 per cent. of its wells in new exploration areas, not covered so far by oil groups. These areas may be in the far north, in the Faroe Basin to the north west of Shetland, or in the English Channel and Western Approaches. What seems certain is that none of these areas will prove to be as productive as the northern and central areas of the North Sea.

Take the southern North Sea basin containing the gas fields: these reservoirs have already yielded over one-third of their proven gas deposits to the extent that for some time now Britain has been virtually self-sufficient in natural gas supplies. Mr. Fowle forecasts that there will be only limited drilling activity in this region. The gas accumulations thought to remain are likely to be small and require extensive—and expensive—appraisal drilling.

The central North Sea contains some of the most attractive and profitable fields, among them British Petroleum's Forties discovery (now reaching a peak output of 500,000 barrels a day) and Occidental's Piper field. All told there are eight oilfields in this region either on stream or under development. In terms of drilling success, the ratio of oil strikes to dry holes has been among the best, not only in the North Sea but in the world.

It is felt within the offshore industry that several more moderately-sized fields will be identified in this central area, although a number of these could be associated with major geological faulting and could thus be difficult to evaluate. B.N.O.C. expects at least 40 wells to be drilled in the central region this year.

Nine proven commercial fields have so far been located in the northern North Sea region. These include some of the biggest reservoirs of Britain's shores including Brent, Ninian and, the largest of them all, Statfjord, which straddles the British-Norwegian median line. Indeed, the main prospective area in this region follows the median line northwards. Here again the drilling success rate has been extremely high when set against worldwide exploration activity—a ratio of one

good hole in three was achieved between 1970 and 1976. There are thought to be a few, relatively small fields to be discovered. As they may well be associated with complex rock faulting they could require a good deal of evaluation drilling and, perhaps, special development techniques. Even so, it is forecast that 30 wells could be drilled in this area during 1978.

This brings us to the Continental Shelf area to the north-west of the U.K., described by Mr. Fowle as one of the most exciting exploration regions developing offshore. "Sufficient potential exists for a drilling programme that could last for several years even without the stimulus of a major discovery," he says. This region, at least immediately west of the Shetland Islands, is being examined much more closely now that the presence of hydrocarbons has been confirmed. Of the 25 wells so far drilled in the West Shetland basin, three have contained oil, one has found gas condensate, and seven have given oil shows. The most promising reservoir located so far seems to be in B.P.'s block 206/8.

Nevertheless, within B.N.O.C. it is thought that about 30 per cent. of the north-western area as a whole must be considered as prospective. On the plus side any oil found will be reasonably close to the Shetland and Orkney islands where provision has already been made for an extension of oil terminal facilities. To exploit much of this area, however, the oil industry would probably have to employ some novel production techniques. Only a small percentage of the prospective areas outside the currently licensed blocks are in water depths of less than 1,000 feet. One third of the prospective area is in water depths of up to 2,000 feet while the remaining area lies beneath 2,000 to 5,000 feet deep.

To extract oil at these depths the companies would almost certainly abandon fixed platform systems in favour of a new technology, such as floating platforms tethered to the seabed or dynamically-positioned drills.

Moving south and back into more moderate water depths



British Gas Corporation is currently evaluating a sizeable gas field (the Morecambe discovery) in the Irish Sea and it is believed that further gas prospects remain to be tested in the area. But the region on this lower western side of Britain thought to have the greatest potential is in the Western Approaches. The map clearly shows that there could be a number of sizeable pockets of hydrocarbon-bearing rock in the approaches to the English Channel. At least three of these prospective areas straddle the British-French median line which explains why each country made such a fuss over the definition of this boundary.

Most of the ingredients for successful exploration are present in the area. Source rocks capable of producing hydrocarbons are known to be present in Jurassic, Cretaceous and older geological formations. Seismic tests have indicated that structures capable of trapping oil or gas also appear to exist. What is not known is whether there is any oil or gas to be found. Only a full-scale drilling programme will provide the answers. The industry is to take its first tentative steps into this area this summer, following the recent award of the initial batch of westerly drilling licences.

Those concessions were offered under the fifth round of licences in 1976. It was by far the smallest round presented by the Government; only 71 blocks

development authorisation could be taken up by the industry. The Department of Energy has indicated that the next round will also be a small one. It feels that this "little but often" system of licence allocation provides the Government with a means of regulating the pace of offshore activity. But there is a danger here. Companies could easily fall behind the pace required if they are to help the country remain oil self-sufficient in the late 1980s and early 1990s.

Offshore operators are also calling for stable government policies relating to regulations on the development of fields already being exploited. They argue that the best prospects are already being exploited. What remains to be found will be very much a second best.

Letters to the Editor

Changes in the shires

From the Leader, Leicester City Council.

Sir—Mr. Roland Freeman, in his letters of March 15 and 23, not a lone voice in advocating the necessary changes in the 1974 reorganisation of local government, although he has so far only provoked correspondence from a county council out of view (Mrs. Coker on March 21 and Mr. Barnes on March 23).

There is a great deal of support for Mr. Freeman's case for change in the shires, particularly in the ten largest metropolitan districts of Bristol, Cardiff, Derby, Hull, Leicester, Nottingham, Portsmouth, Plymouth, Southampton, and Stoke Trent (all with populations over 200,000 and one, at least, with twice that figure).

As chairman of the executive council of the County Councils Association, one would perhaps expect Mrs. Coker to spring to the defence of a system which transferred to county councils major functions of local government such as education and social services in all but the metropolitan areas, and it can therefore only be considered as commendable with faint praise that she "in many ways" is remarkably successful.

Threatened

In many ways it has been remarkably less than successful all parts of the country, but particularly in the larger cities, surrounded by shire counties, such as Leicester. So much so that at the Prime Minister has now officially instituted a departmental review of its many shortcomings with a view to redistributing some of the functions currently satisfactorily between strict and county councils, and he can only assume that Mrs. Coker wrote her letter because her association feels threatened by its possible findings.

The duplication and wasteful irrelevancy which the 1974 reorganisation has engendered is acknowledged by the assumption that any return to the more sensible all-purpose local authority system which prevailed in the larger cities before reorganisation would be a further costly upheaval.

I feel quite sure that in the long run it would be more economical (as well as far more responsive to local needs) and perhaps this is why the only comment that Mrs. Coker could make in the present satisfactory system is that one of the county council's staff associations are opposed to change.

While it is true, as Mrs. Coker says, that the Association of County Councils has not asked for education to be transferred to district councils, it is the unanimous view of all the elected members in Leicester who are most closely concerned with this service, that it could be administered far more

efficiently and responsibly by the city as it was prior to 1974. Mr. Barnes does not seem to disagree with this but seems prepared to accept the anomalous and unsatisfactory situation of the larger non-metropolitan cities merely for the sake of stability.

Many of us do not place such a premium on "stability" and would give a much higher priority to achieving a local government system with which people can readily identify and which can really serve their needs. I do not believe that people in such cities as Leicester will ever get accustomed, for example, to applying to county hall for school bus passes or complaining to county not city councillors about the levying of charges for home help.

Cities have historically formed the most natural and the most effective bases for local government and where the 1974 reorganisation blurred the edges of such local identities and introduced two-tier and concurrent functions with county councils, it has potentially proved unsatisfactory to elected members, to local government officers, but most importantly of all, to the citizens whom it was meant to serve.

Mr. Freeman is right. The sooner some constitutional changes to the present local government system are made the better.

Wynne Giffin, The Grosvenor, King Street, Leicester.

Telephone meter

From Mr. E. Wood.

Sir—The device described in the Technical Page (March 22) sounds complicated. A simpler device has been available for years.

You can rent from the Post Office a dial meter that shows the number of units being used as each call proceeds. It also records the cumulative total of units. Thus you can monitor any call and check your phone bill.

But there are snags. The Post Office charges £1.50 rental per quarter for the meter and it does not guarantee that it is as accurate as the meter on which the bill is based. More important, the meter seems to be invisible to teenagers who are not paying the bill.

E. G. Wood, 7, Tugwell Lane, Warrle Bridge, Stockport, Cheshire.

Contingency politics

From Mr. D. Folkes.

Sir—In reviewing (March 23) together two books, one about Mrs. Thatcher, Mr. Rex Wintbury asks: "What is the Thatcher political philosophy?" Would that she kept it secret. I can assure Mr. Wintbury that if anyone of his standing cares to write to her asking her to clarify her

views on any point, either she or Mr. Matthew Parris will oblige him with a reply.

She has definite leanings towards liberalism (in the old-fashioned sense, not that of the present Liberal Party). She is not, however, a purist, and lacks the kind of characteristic of one; but how many politicians or, indeed, people, are purists?

What she will do when she gets into power is, of course, a mystery to all of us, including Mrs. Thatcher, for it depends on the future situation of which we are all ignorant.

Civil servants, but not politicians can equip themselves with highly detailed contingency plans.

G. D. Folkes, 3, Queen's Walk, Faling, W.5.

Clip-board selling

From the Agency Manager, Standard Life Assurance Co.

Sir—The Men and Matters of March 21 reports that Mr. Trevor Deaves of Berkeley Walbrook had implied that his clip-board sales activities could result in business being placed with Standard Life. I correct the record by telling you that I can trace no agent of ours by the name of Berkeley Walbrook and further that my Company would not accept business from any agent if we knew it had been secured directly as a result of clip-board selling.

It is essential that life assurance should be sold honestly and openly and no professional intermediary or insurance company need feel ashamed (by disguising the fact) of selling essential protection or future security to members of the public.

G. P. Glover, The Standard Life Assurance Company, PO Box No. 62, 3, George Street, Edinburgh.

Full price air racket

From the Managing Director, Quasimodo Science.

Sir—For the past 15 years I have been a regular air traveller earning substantial foreign currency for this country. I regard the purchase of an air-line ticket as a contract to be honoured like any other. I do not fail to turn up, chance my route capriciously or do any of the things that airline claims cause extra cost in handling business travellers.

Until recently I have been paying more for air tickets than holiday-makers have been paying for complete holidays where they were spending foreign currency, not earning it.

Recently I discovered the so-called bucket shops and was delighted to find that not only could they produce me a saving of 20 to 30 per cent., but the staff knew about reporting times, airport bus routes, etc., than I do. This is in marked contrast to my experience with the "regular" travel agents.

From your report (March 23)

of the terms of reference and composition of the working party investigating these people, it appears that the Government has decided to do a halfhearted job on the bucket shops instead of investigating the stupidities of the IATA regulations.

Roy Jenkins, 27, St. George's Road, Cheltenham, Glos.

Protected wreckers

From Mr. G. Ashman.

Sir—Justinian (March 23) quotes Lord Denning as "asserting that the law would be in a sorry state if a man committing a crime could turn round and say that he was immune from suit and could cause special damage with a degree of impunity."

Right first time! In my septuagenarian old age I have had helplessly (albeit profanely) to watch a procession of smirking gentlemen parade across my TV screen while they inform me that they can make much money for themselves by cutting off my electricity, gas, coal, bread, mail newspapers, buses, trains, refuse collection, hospital and fire services and much else. They can, in fact, make more money for themselves by this method than by doing the actual work which is under dispute.

There are only two correct: The law which gives me exemption from legal accountability for such damage to my country and my fellow citizens.

Common sense screams to high Heaven that a courageous gentleman should stand on the alteration of existing laws on this matter. Unless work-dodging is made less profitable than work (currently it is a trade in itself) one might imagine that the law will continue still to be dragged at the heels of the protected wreckers.

G. T. Ashman, Cam Vean, 3, Meadgate, Camerton, Avon.

The water rate

From the Press Officer, North West Water Authority.

Sir—Mr. R. A. Morris (March 23) has got his facts wrong and consequently his conclusions are invalid. The water bill, to which he refers, this year includes the sewerage charge formerly collected with the general rate. This charge was explained in the leaflet sent out with the bills. For the record his total charge for water and sewerage services this year is 4.8 per cent. more than last year.

Peter Gregory, North West Water Authority, Niagara House, 61, Smeke, Warrington, Gt. Sarkey.

"Our Nationwide Capital Bond pays 6½% worth more than 9½% gross and a regular monthly income."



It pays to decide Nationwide

Nationwide Capital Bonds guarantee extra interest and a regular monthly income

4-year term Extra Interest Monthly Income	6.50% 9.85% GROSS
3-year term Extra Interest Monthly Income	6.50% 9.85% GROSS
2-year term Extra Interest Monthly Income	6.00% 9.09% GROSS
Share Account	5.50% 8.33% GROSS

You can invest from £500-£15,000 (up to £30,000 in a joint account) for fixed terms of 2, 3 or 4 years. The two year Bonds offer ½% extra interest above Share Account rate, the three and four year Bonds offer 1½% extra interest. The Share Account rate may fluctuate but the extra interest is guaranteed for the full period. Your interest can either be compounded half-yearly; paid half-yearly by warrant or transferred every month to your bank. Nationwide Capital Bonds offer you an excellent return with complete security. There are now over 325 Nationwide branches—you'll find the address of your local branch in Yellow Pages or just post the coupon.

To: Nationwide Building Society, Dept. MC, New Oxford House, High Holborn, London WC1V 6PU. (Write enclose a cheque for £, to be invested in Nationwide as indicated.)

1. In a 2-year Capital Bond ☐ 4. In a Nationwide Share Account ☐
 2. In a 3-year Capital Bond ☐ Interest to be compounded ☐
 3. In a 4-year Capital Bond ☐ or paid at end of time and December each year. ☐

Capital Bond interest to be paid in end of each month. ☐

(For withdrawal from Capital Bonds only in the event of the holder's death.)

Name _____ Address _____
 Telephone _____ Date _____

Nationwide
 The Building Society of a lifetime.

Funds raised £2,200,000,000. Authorised for investment by trustees. Member of the Building Societies Association.

COMPANY NEWS + COMMENT

Strike cuts Lucas to £27.6m. at half time

REFLECTING THE effects of its lengthy U.K. toolroom strike, pre-tax profits of Lucas Industries fell from £34.97m. to £27.61m. in the half year to January 31, 1978. The strike is said to have cost Lucas £11m.

Turnover for the period rose from £212.23m. to £202.39m. and the directors say worldwide demand remained strong. Turnover would have been higher but for the restriction on supplies from the U.K. factories.

Despite this, and other areas of market weakness, good progress was made both at home and overseas.

Vehicle equipment businesses have obtained new contracts to supply European vehicle and engine makers, and industrial equipment businesses continued to advance.

Plans to substantially increase the group's share of the U.S. market are making good progress.

The current firm demand is expected to be maintained and directors say no effort will be spared to recover further the ground lost in the first half. Earnings per £1 share are shown to have declined from 17.14p to 13.78p.

The interim dividend is lifted from 2.22p to 2.54p net. Last year's £608p final was paid on recordable profits of £77.26m. The interim dividend will absorb £2.19m. (£1.99m.).

Half-year 1977 1978 1979
Sales 462.30 453.25 566.07
Depreciation 11.38 12.37 15.52
Trading surplus 39.24 32.59 75.23
Shareholders' interest payable 3.82 2.39 4.33
Profit before tax 22.61 34.67 77.26
Tax 14.38 18.62 27.88
Net profit 8.23 16.05 49.38
Attributable 6.30 12.57 38.94

AS FORESHADOWED at half-time, pre-tax profit of Fothergill and Harvey advanced from £902,679 to £1,051,132 for 1977, on higher turnover of £12.04m. against £9.64m.

Tax takes £362,132 (£3,701 credit restated) giving available profit down from £911,380 to £689,020. Stated earnings per 25p share are 12.68p (15.61p). The dividend total is the maximum permitted 6.2113p (5.581p) net, with a 3.9613p final.

Capital spending in 1977 was slightly below budget at £5.02m. Borrowing was up £1.37m. and gearing was maintained at 40 per cent. Authorised capital expenditure for the current year amounts to £5.80m.

The group benefited by a change in the method of accounting for deferred tax to take advantage of stock appreciation relief and allowances on capital spending. Comparatives have been amended.

At half time profit had been better at £3.12m. against £2.99m. Earnings per 25p share for the year were 9.54p (9.56p) and there is a second interim dividend of 1.5855p net lifting the total to 2.334p (2.157p).

The directors expect better results from the principal overseas companies Textar and Scandura Inc. in 1978 but they say it is too early for them to make any considered forecast for the year.

In the U.K. Mintex continued to make good progress with both sales and profits higher.

Lloyds Eurofinance N.V. Copies of the Accounts of Lloyds Eurofinance N.V. at 30th September 1977 are now available from:

The Secretary, Lloyds Bank International Limited, 40-48 Queen Victoria Street, London EC4A 4EL.

Star of Edinburgh 'Goblet'.

It's crystal clear why Crown House are Britain's leading quality glass suppliers.

Our name, Crown House, is one rarely associated with glassware. Yet our Group includes Britain's most wide-spread table glass suppliers, with factories and warehouses in four locations in the United Kingdom.

Far better known in the glass world is the name of our glassware division, Demaglass, through the manufacturing of full lead crystal branded as "Thos Webb" and "Edinburgh" and the world-wide distribution of over 100 million machine made glasses each year.

Demaglass did well for Crown House and for Britain last year, by increasing their exports to over half their output.

To find out more about the achievements of Demaglass and the rest of our group, contact our Chairman, Patrick Edge-Partington at 2 Lygon Place, London SW1W 0JT. Telephone 01-730 9287.

Crown House Ch You may not see us, but we're there.

Company	Page	Col.	Company	Page	Col.
APV Holdings	29	4	House of Lerose	30	8
Asda Book Publishers	29	3	Lilley (F. J. C.)	31	5
Aurora Holdings	28	2	LWT Holdings	28	4
BBA Group	28	1	Lucas Inds.	28	1
Biddle Holdings	30	5	Martin (R. F.)	30	5
British Petroleum	30	6	Mixconcrete	29	4
Bridon	31	4	Mole (M.)	29	2
British Mohair	28	6	Prudential Assce.	30	1
Bruntons (Musselburgh)	28	4	Pye Holdings	28	5
Bulgin (A. F.)	28	8	Reckitt & Colman	29	1
Deasoutter Bros.	30	3	Relyon (F. B. W. S.)	29	3
English Property	30	3	Sindar	29	4
Erith & Co.	28	7	Transatlantic Market	30	3
Fothergill & Harvey	28	1	Ward White	28	8
House of Fraser	28	7	Warne Wright Rowland	28	3

Record £2.5m. at Aurora

PRE-TAX profit of Aurora Holdings, general and precision engineering, was a record £2.51m. in the 18 months to January 31, 1978. The 1977 annualised profit was £2.12m.

Turnover for the year was £31.14m. against £28.38m. for the 18 months to January 31, 1977. The result is after interest of £824,000 (£608,000 and £540,000) and before tax of £908,000 (£656,000 and £719,000).

Undiluted earnings per share are shown at 22.11p (£1.77p) and 26.1p on capital increased by a one-for-four rights issue and acquisition issues. Diluted earnings are given at 20.98p (20.71p and 24.09p).

The final dividend per 25p share is 5.96p net (2.16p) for a total pay-out of £2.50p. For the 18 months of 1977-78 when Aurora altered its balance date, payments totalled £4,350, while for an annualised 1976 the pay-out was £4,250.

Directors say gearing of the group was reduced from 0.97 to 0.69, without taking into account sales of surplus land and buildings totalling £345,000 negotiated since the year end.

They say order books show a significant increase and the group

maintains a strong position in all its main areas. They say 1977 saw excellent progress in its expansion policy, with a successful rights issue in June; in September the acquisition of Colnag Group; in December the acquisition of Lerche Machine Tools and Wm. Oley and Co.; in December the repayment of debenture and unsecured loan stocks and the transfer of the group's brick-making interests to Scottish Brick Corporation, reducing group borrowings by £600,000.

Growth in practically all its divisions contributed to the 19 per cent. rise in pre-tax profits at Aurora Holdings last year. As in past years, the engineering division—the speciality of the Sheffield-based group—proved to be the bright spot with the machine tool and fastener divisions making good profits. Metals gave a creditable performance too. However, hardware was weighed down by weak overseas operations and process and industrial plant showed reduced profits mainly due to increased costs. But these weaknesses are expected to be smoothed over in the current year. With the order book showing a significant increase and full contributions expected from its latest acquisition, a growth of some 33 per cent. in pre-tax profits to £3.4m. is possible for 1978. Of the acquisitions, the Colnag Group, which only contributed three months profits to the 1977 figures, is expected to make about £1m. profit while Lerche Machine

Earnings per 3p share for the year are 5.61p (4.56p) and the dividend is increased from 0.924p to 1.032p, costing £23,220 (£20,790). After tax of £1,013, against £1,233,096, net profit came out at £102,900 (£127,973).

Peak £1.4m. at Warne Wright

On turnover up from £18.04m. to £20.07m. for 1977, Warne Wright and Rowland reports a rise in taxable profits from £1.38m. to a record £1.42m. after £0.64m. against £0.58m. at the interim stage. Directors then said that the full year results should show an improvement in 1978.

On increased capital last year's one-for-two rights issue earnings for the year are shown to be down from 15.054p to 12.524p and the dividend is lifted to 2.64p (£1.704p) net with a final of 1.32p.

Tax for the year was up from £26,803 to £27,044 and the directors say that the 1978 figure has been restated according to the £2019 basis. The group is a fastener manufacturer, drop forger and engineer.

DRAYCOTT CONTAINERS A MEETING of creditors of Draycott Containers Services, has been called at the offices of W. H.

Tools and Wm. Oley should add some £200,000. The shares, however, slipped 4p yesterday to 94p where they offer a yield of 9 and a p/e of 4.1.

LWT expands midyear

REPORTING TAXABLE earnings up from £2.53m. to £3.48m. for the half year to January 22, 1978, the directors of LWT (Holdings) say that the rate of advance must be regarded as, in part, exceptional.

The substantial increase in programme expenditure to which the company is committed during the full year was not fully reflected in the first six months, they explain.

Turnover for the independent television contractor was 38 per cent. higher at £20.12m. (£14.52m.) and is currently running at a level satisfactorily above that of last year.

The net interim dividend is lifted to 3.555p per 25p share, against 2.545p equivalent after a scrip issue. A final of 3.24p was paid last time from a full year surplus of £5.52m.

LWT has taken advantage of its last year's exemption from dividend restraint to push up the interim dividend by 25 per cent. The first half results support this rise, with profits up 37 per cent. The improvement is mainly due to a rate card increase of 19 per cent. in September which has helped to boost advertising revenue by about 37 per cent., well ahead of an increase in national TV advertising revenues of about 31 per cent. over the same period.

LWT must now have regained most of the market share it lost to Thames in London last year when the current trend of increasing demand for advertising time, profits of at least £6.5m. should be possible for the year. Meanwhile, with interest rates at their current low level, there is increasing pressure to find an alternative use for the company's liquid funds, which stand at about £10m. At 125p the shares are on a prospective p/e of 8.4. Assuming a 23 per cent. increase in the dividend total, the yield is 0.4 per cent.

Provisions for subsidiary hit Pye Holdings

ATTRIBUTABLE profit for 1977 of Pye Holdings fell to £43.2m. from £45.2m. in 1976, adjusted after the elimination of amounts attributable to the activities sold during 1977. The figures include £4,099m. against £2.2m. attributable profits of the subsidiary Pye of Cambridge and £5,000 from the parent company compared with a loss of £23,000 last time.

Earnings per 25p share are shown to be up from 12.1p to 16p and the dividend is increased to 3.584p (2.9p) with a net final of 2.434p. Treasury consent for the increase has been given. The £23m. attributable profits of the subsidiary Pye of Cambridge and £5,000 from the parent company compared with a loss of £23,000 last time.

Pyramid Holdings: 1977 1976
Turnover 161,237 162,237
Trading profit 12,778 14,427
Loan interest 1,167 1,167
Bank interest, etc. 323 1,223
Profit before tax 16,844 16,923
Tax 5,512 5,512
Net profit 11,332 11,411
Extraordinary profit 3,254 270
Preference div. 113 113
Leaving 14,699 12,794

Pyramid Holdings: Pre 1976, net profit 3,254
Attributable 4,095 8,197
Taxation 1,246 2,994
Appropriated 7,791 2,994
Available 6,803 8,197
Interim dividend 6,803 8,197
Proposed final 1,511 1,424
Retained 5,292 6,773

Charges have been brought against Mr. Harry Hurst, chairman of Cabinet, and Mr. Alfred Nichols, managing director, alleging the theft of £47,000 cash from the company.

The men have been remanded on bail of £50,000 each.

After adjusting for the disposal of Pye's audio-visual activities, pre-tax profits are almost a quarter up with turnover showing a gain of 11 per cent. The company prepares its accounts on the replacement cost convention, so a more appropriate comparison may be of profits available for distribution which have jumped by over 40 per cent to £7.8m. But this is after taking credit for written back reserves of £5m., which are no longer considered necessary for the preservation of the business after the audio-visual disposal.

The 1977 figures reflect volume growth in the U.K. of around 4 per cent., but a decline of perhaps 11 per cent. in foreign markets. On the other hand, Pye says exports held up at 29 per cent. of

turnover. In the latest period a stock loss of £59,330 was shown. The directors also point out that the record 1978 result benefited from a regional employment premium of £116,171, while no premium was received last year.

As announced in October, a second interim dividend of 3.919p (3.508p) per £1 share lifts the total from 6.324p to 7.004p, the maximum permitted and absorbs £584,640 (£501,672).

At half-way, when pre-tax profit was down from £1,146,000 to £796,000, the directors said that in the first two months of the second half there had been no further fall in earnings, which were running at the average of the first six months. Second half results were expected to be in line with first-half earnings.

The directors now say that although 1978 benefited by £25,530 from capital gains and interest relief grant, the current year benefited in this way by £101,324.

After £219,557 (£215,557) (£1,185,889), net profit is £1,151,225 (£910,288). Earnings per share are shown at 14.39p (11.38p).

DIVIDENDS ANNOUNCED

Company	Current dividend	Date of payment	Corresponding year	Total for year	Total last year
APV	3.71	May 19	3.32*	5.71*	5.16*
Assoc. Book Publishers	2.32	—	2.4	4.02	3.83
Aurora Holdings	3.96*	May 26	2.16	5.25*	4.44*
Biddle Holdings	1.30	—	1.42	2.30	2.16
Bridon	4.68	May 26	3.98	6.68	5.98
Brit. Mohair	2.54	May 24	3.65	6.14	6.11
Bruntons (Musselburgh)	2	May 12	1.73	2.73	2.46
Bruntos (Musselburgh)	3.28	—	2.51	7	6.32
AF Bulgin	0.78	July 3	0.71	1.31	1.18
R. Cartwright	2.3*	May 5	1.42	4.7	4.32
Desoutter Brothers	3.27	May	3.25*	5.32	3*
English Property	1.05	—	1.05	2.3	2.3
Erith and Co.	3.44	May 19	3.02	5.49	4.94
Fothergill & Harvey	3.06	—	3.58	6.21	5.58
Hewlett	1.03	—	0.98	1.03	0.92
House of Lerose	3.08	—	2.78	4.77	4.27
HJC Lilley	2.12	June 26	1.71	3.82	3.54
Lucas Industries	1.57	May 15	2.13	—	8.22
LWT Holdings	3.36	April 10	2.84*	6.19*	6.19*
Magnolia	1.67	—	1.68	2.7	2.64
R. and J. Makin	0.44	April 5	0.4	—	1.35
R.P. Martin	0.98	April 28	2.5	—	5.94
Mixconcrete	1.92	May 1	1.72	3.19	2.88
M. Mole and Son	0.41	—	0.38	0.41	0.38
Municipal Props.	5.1	—	4.58	5.1	4.58
Nth. Broken Hill	Ints	—	—	—	—
Prudential Assurance	2	May 25	3.75	5.85	6.01
Pye Holdings	2.54	May 28	2.9	3.57	2.9
Reckitt & Colman 2nd int.	5.95	July 3	5.34	10.61	9.59
Reylon P.B.W.S.	2.6	June 3	2.3*	4.1	3.67*
Renong Tin	1.3	May 5	1.15	—	8
Sindar	1.26	May 18	1.15	—	2.8
Stratford Market	11	April 28	14.42	21	34.42
Transatlantic Market	1.67	June 1	1.48	5.83	2.33
Viscose Development	1.77	June 14	1.5	2.71	2
Ward White	1.32*	June 1	1.09	2.94*	2.17
Warne Wright	3.51	May 30	2.9	5.11	4.5
Wilkinson Warburton	0.98	July 3	0.73	1.27	1.15
Wm. Oley and Co.	3.24	—	2.5	—	—
Dividends shown p/e per share net except where otherwise stated.	—	—	—	—	—
*Equivalent after allowing for scrip issue.	—	—	—	—	—
On capital increased by rights and/or acquisition issues.	—	—	—	—	—
23p annualised. *Australian cents throughout.	—	—	—	—	—

Provisions for subsidiary hit Pye Holdings

ATTRIBUTABLE profit for 1977 of Pye Holdings fell to £43.2m. from £45.2m. in 1976, adjusted after the elimination of amounts attributable to the activities sold during 1977. The figures include £4,099m. against £2.2m. attributable profits of the subsidiary Pye of Cambridge and £5,000 from the parent company compared with a loss of £23,000 last time.

Earnings per 25p share are shown to be up from 12.1p to 16p and the dividend is increased to 3.584p (2.9p) with a net final of 2.434p. Treasury consent for the increase has been given. The £23m. attributable profits of the subsidiary Pye of Cambridge and £5,000 from the parent company compared with a loss of £23,000 last time.

Pyramid Holdings: 1977 1976
Turnover 161,237 162,237
Trading profit 12,778 14,427
Loan interest 1,167 1,167
Bank interest, etc. 323 1,223
Profit before tax 16,844 16,923
Tax 5,512 5,512
Net profit 11,332 11,411
Extraordinary profit 3,254 270
Preference div. 113 113
Leaving 14,699 12,794

Pyramid Holdings: Pre 1976, net profit 3,254
Attributable 4,095 8,197
Taxation 1,246 2,994
Appropriated 7,791 2,994
Available 6,803 8,197
Interim dividend 6,803 8,197
Proposed final 1,511 1,424
Retained 5,292 6,773

Charges have been brought against Mr. Harry Hurst, chairman of Cabinet, and Mr. Alfred Nichols, managing director, alleging the theft of £47,000 cash from the company.

The men have been remanded on bail of £50,000 each.

After adjusting for the disposal of Pye's audio-visual activities, pre-tax profits are almost a quarter up with turnover showing a gain of 11 per cent. The company prepares its accounts on the replacement cost convention, so a more appropriate comparison may be of profits available for distribution which have jumped by over 40 per cent to £7.8m. But this is after taking credit for written back reserves of £5m., which are no longer considered necessary for the preservation of the business after the audio-visual disposal.

The 1977 figures reflect volume growth in the U.K. of around 4 per cent., but a decline of perhaps 11 per cent. in foreign markets. On the other hand, Pye says exports held up at 29 per cent. of

turnover. In the latest period a stock loss of £59,330 was shown. The directors also point out that the record 1978 result benefited from a regional employment premium of £116,171, while no premium was received last year.

As announced in October, a second interim dividend of 3.919p (3.508p) per £1 share lifts the total from 6.324p to 7.004p, the maximum permitted and absorbs £584,640 (£501,672).

At half-way, when pre-tax profit was down from £1,146,000 to £796,000, the directors said that in the first two months of the second half there had been no further fall in earnings, which were running at the average of the first six months. Second half results were expected to be in line with first-half earnings.

The directors now say that although 1978 benefited by £25,530 from capital gains and interest relief grant, the current year benefited in this way by £101,324.

After £219,557 (£215,557) (£1,185,889), net profit is £1,151,225 (£910,288). Earnings per share are shown at 14.39p (11.38p).

House of Fraser up 31% to £36m.

WITH A rise from £19.45m. to £36.8m. in the final quarter, 1977, House of Fraser, a department store operator, expanded its pre-tax profit by 30.5 per cent to a record £3.68m. for the 32 weeks to January 25, 1978, compared with £2,783m. for 1976-77. Sales, including V.A.T., were up 14.8 per cent. at £31.69m. (£14.21m.) to leave net profit ahead from £13.66m. to £17.43m. However, as a result of a change in accounting policy during the year, stock appreciation relief was reduced to £0.78m. (£7.39m.), giving an adjusted surplus after tax of £12.1m. (£20.0m.).

Earnings before the change of accounting policy are shown as £13.2p (11.05p) per 25p share, and after as 14.9p (17.05p). A final dividend of 3.877p steps up the total to £16.42m. (£20.0m.).

As the directors are satisfied that the book value of stock will not be reduced in the foreseeable future, they consider it no longer necessary to provide for deferred tax in respect of stock appreciation relief, but deferred tax is continued to be provided for excess capital allowances and other items.

This change of policy has highlighted the low effective tax charge in 1977, but it has also released £12.76m. from deferred tax, representing stock appreciation relief provided in earlier years and added it to shareholders' funds.

The shareholders' funds were reported in 1977 as £148.68m. and this figure has been increased to £161.42m. with the present total share capital and reserves of the group of £174.67m.

See Lex

Shortfall at Erith & Co.

ON TURNOVER of £21.79m. against £20.8m. last time, taxable profit of Erith and Company declined from £37,372 to £732,424 in 1977.

At half-year profit was down from £307,000 to £233,000 and a shortfall on last year's record was forecast.

The directors say the lower profit reflects the continuing low level of activity in the building and construction industry and also the need to make adequate provision for bad and doubtful debts in view of the many failures among building companies.

Trading in the second half showed an encouraging upward trend and the directors are looking to this continuing in 1978.

Net profit emerged at £377,825 (£458,273) and earnings per share are given at 8.14p against 9.35p last time.

The final dividend of 3.64009p

Reckitt and Colman at £58m. and confident

FTER RISING from £26.7m. to £45.5m. in the first half, pre-tax profits of Reckitt and Colman rose 77% ahead from £31.43m. to £55.91m. on sales of £507m. compared with £464.25m. Profits were struck before exchange losses of £3.4m. against gains of £4.95m. in 1977.

Earnings before exchange differences are shown at 53.3p (58p) per 20p share. A second interim dividend is declared of 9.5478p net making 10.51478p compared with last year's total of 9.5887p.

One of the aims of Reckitt and Colman is at least to maintain the value in real terms of dividends paid to shareholders. Dividend maintenance has been a force since 1968 and the maximum permitted dividends have been paid each year. In order, however, to ensure the value in real terms of dividends compared with those paid in 1968, the Board estimates that the required increase in the 1977 dividend, over the amount paid for 1976, would be about 10.5% compared with the 10% increase contained in the first and second interim dividends already declared.

It is intended, therefore, if allowed by law, to pay a third interim dividend of not less than 12.5p per share, making total dividends for 1977 of not less than 25.5p per share. A third interim dividend of 2.88322p per share would add £1.77m. plus ACT of £9.91m. which provision has not been made in the 1977 accounts.

	1977	1976
Net sales	507.0	464.3
Gross profit	62.7	54.9
Less: Interest payable	57.0	51.0
Net profit	5.7	4.9
Less: Minority interest	0.1	0.1
Net profit	5.6	4.8
Less: Exchange losses	3.4	4.9
Net profit	2.2	0.9
Less: Tax	1.3	1.3
Net profit	0.9	0.6
Less: Dividends	0.0	0.0
Net profit	0.9	0.6

A geographical analysis of sales and pre-tax profits shows that North America contributed £127.1m. (£111.3m. in 1976), followed by Europe (£19.9m. (£19.3m. in 1976)), Australasia (£15.5m. (£17.1m. in 1976)), and Asia (£10.4m. (£9.8m. in 1976)).

On turnover of £1.48m. against £1.2m. taxable profit of £1.2m. and Son rose from £1.512 to £1.0445 in 1977. There is no corporation tax liability and earnings per 20p share are shown at 30.4p (23.8p), and a second interim dividend of 2.518p net takes the total to a maximum permitted 4.018p (3.649p). In the event of a change in the ACT rate the amount of unpaid dividend will be adjusted accordingly.

Directors say 1978 has started satisfactorily and that they believe the effect of the diversification policies of recent years should contribute to group profitability this year.

A first and final dividend of 0.4125p (0.375p) has been proposed.

Mole makes hand tools, trailers and equipment for the television industry.

Following the change in accounting policy for deferred tax, £13.58m. has been released to reserves and has been used to write down goodwill.

Net borrowing increased by £3.51m. and totalled £30.55m. This increase is less than the amount incurred on acquisitions and reflects the tight control maintained over the use of the group's financial resources. The financial facilities available to the group are adequate to finance its trading activities and expansion plans during the current year.

As well as acquisitions of businesses, capital expenditure on development in 1977 amounted to £24.82m. of which £12.94m. was spent in the U.K. The largest single item was the first phase of the pharmaceutical factory development at Hull. This was brought on stream early in 1978 and the company is now moving into the second phase. The balance of £11.88m. spent on development was mainly devoted to significant improvements in production facilities in other parts of the world.

In common with all consumer goods industries the group experienced a decline of consumer buying power in real terms as a result of inflation. Fierce competition for a static trade had an adverse effect on U.K. business.

In Europe price controls and competitive pressures intensified in the second half but North America results showed encouraging progress in the light of lack of business confidence and flat trading conditions. The new creative leisure field continued to develop well.

See Lex

M. Mole progresses to £0.1m.

On turnover of £1.48m. against £1.2m. taxable profit of £1.2m. and Son rose from £1.512 to £1.0445 in 1977. There is no corporation tax liability and earnings per 20p share are shown at 30.4p (23.8p), and a second interim dividend of 2.518p net takes the total to a maximum permitted 4.018p (3.649p). In the event of a change in the ACT rate the amount of unpaid dividend will be adjusted accordingly.

Reylon at peak £1.29m.

ON SALES of £9.04m. against £7.68m. taxable profit of Reylon £1.29m. (1976 £1.15m. to a peak £1.25m. in 1977).

The profit of the divan, mattress, etc. maker was after depreciation of £95,692 (£88,717) and subject to tax of £87,022 (£80,147). At half-year profit was £58,000 (£50,000).

Earnings per share are given at 8.24p compared with 8.29p, and the final dividend per 20p share is 2.5954p against an adjusted 2.33p last time. The total dividend is up from 3.667p, adjusted for a one-for-two scrip issue, to 4.9954p.

Associated Book ahead to £2.6m.

INCLUDING ASSOCIATE company contributions of £11,000 compared with £10,000, taxable profit of Associated Book Publishers lifted from £2.25m. to a peak of £2.61m. in 1977. Turnover was £23.64m. against £22.37m.

After tax of £1.25m. (£1.17m.) and minority interests of £242,000 (£250,000), attributable profit comes out at £1.11m. (£889,000). At half-year profit was ahead from £378,000 to £591,000, and a satisfactory full-year advance was anticipated.

Earnings per 20p share are shown at 30.4p (23.8p), and a second interim dividend of 2.518p net takes the total to a maximum permitted 4.018p (3.649p). In the event of a change in the ACT rate the amount of unpaid dividend will be adjusted accordingly.

Mixconcrete reaches £1.2m.

PRE-TAX profits of Mixconcrete (Holdings) recovered from a half-time downturn from £459,000 to £150,000 to finish the 1977 year just ahead at £1.2m. compared with £1.18m. last time. Turnover was unchanged at £26.6m.

At the interim stage the directors said that although short-term prospects for the construction industry were not encouraging, results for the second half should not show the same marked reduction as that of the first half.

Earnings are shown to be down from 6.68p to 3.98p per 20p share and the dividend is increased to 3.1944p (2.86p) with a final of 1.9153p net.

Pre-tax profit was struck after interest of £232,059 (£217,982). Tax for the year took £53,568 (£59,059) and £255,900 (£222,235) was retained.

First half jump by Sirdar

REPORTING a jump in pre-tax profits from £507,000 to £886,000 for the 26 weeks to January 14, 1978 on turnover of £10.11m. compared with £8.31m. the directors of Sirdar, the knitting and rug wool manufacturing group, say that the high level of sales is being maintained and the improvement in profit is expected to continue through the second half. Profits for all 1977-78 came to £1.14m. on sales of £16.44m.

First half earnings are shown to be ahead from 6.3p to 11p per 20p share pre-tax and from 5.7p to 8.9p after tax. The interim dividend is lifted from 1.15p to 1.26p net costing £94,330 (£85,763). Last year's total was £270,250.

No provision made for deferred tax unless there is a reasonable probability of payment in foreseeable future.

Although trading in Europe continues to be difficult, the further improvement in the performance of Hayfield Textiles, an increase in U.K. turnover of 30 per cent. and better margins have contributed to the best half-year so far achieved by the group, say the directors.



APV HOLDINGS LIMITED

The upward trend continues

OPERATIONS: Process engineers, plant manufacturers, fabricators and steel foundries.

PRODUCTS: Heat exchangers, evaporators, dryers, pumps; refrigeration and other specialised processing equipment.

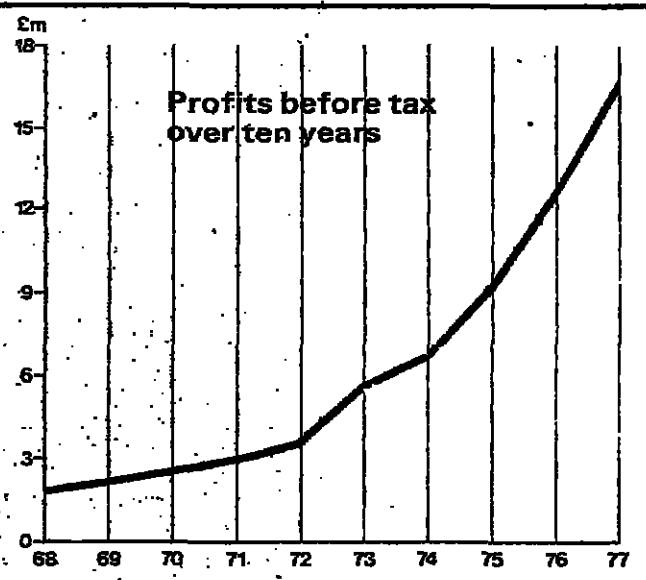
MARKETS: Dairy, food, brewery, chemical, petroleum and marine industries.

GROUP: 60 operating subsidiaries in 20 countries.

EMPLOYEES: 12,900 of whom 5,250 overseas.

ORDERS RECEIVED: £237 million in 1977.

APV Holdings Limited, P.O. Box No. 4, Crawley, West Sussex, RH10 2QB.



	1977	1976
£'000	£'000	£'000
Sales	213,400	137,400
Profit before tax	16,645	12,607
Earnings per share	27.11p	25.13p
Ordinary dividends	5.7071p	5.1608p

The Prudential Assurance Company Limited

The unaudited results for the Prudential Group of Companies for 1977 are set out below with comparative figures for earlier years.

The Directors have declared a final dividend of 4.198p per share payable on 25 May next. This, together with the interim dividend of 2.450p per share declared in September last, amounts to 6.648p. Adding an imputed tax credit at the rate of 34/66ths, the equivalent gross amount is 10.073p per share, and compares with 9.158p per share for 1976.

	1977	1976	1975	1974
£m	£m	£m	£m	£m
Surplus	236.4	210.0	186.8	135.8
Policyholders' bonus	220.5	196.4	174.8	127.8
To Profit and Loss Account	15.9	13.6	12.0	8.0
Non-life				
Premium income	368.4	321.9	233.9	190.8
Underwriting loss	(9.5)	(10.2)	(8.3)	(4.7)
Investment income	23.4	21.5	15.7	11.5
Life				
Premium income	13.9	11.3	7.4	6.8
Underwriting loss	3.6	5.0	4.1	1.6
To Profit and Loss Account	10.3	6.3	3.3	5.2
Profit and Loss				
Life	15.9	13.6	12.0	8.0
Non-life	10.3	6.3	3.3	5.2
Account:				
Other net income	5.7	4.5	2.7	2.9
Profit for the year	31.9	24.4	18.0	16.1
Retained profits	12.1	8.0	3.2	4.6
Dividend cost	19.8	16.4	14.8	11.5
Equivalent gross dividend per share	10.073p	9.158p	8.326p	7.711p

(Earnings per share are not appropriate for life assurance business and have not therefore been given)

The growth of income and profits in 1977 has been reduced by the improvement in the sterling exchange rate.

There was a continued improvement in the surplus from life business which enabled policyholders' bonuses to be increased and a larger transfer to Profit and Loss Account to be made.

The non-life underwriting loss showed a small reduction in total after providing for a refund of some £3.3m. to policyholders in Canada in accordance with the requirements of the Anti-Inflation Board.

Some worsening occurred in the Company's underwriting results in the United Kingdom. There was continuing adverse experience in the domestic property account and a small loss on the motor account. Commercial property and pecuniary risks accounts and long term general business continued profitable. Overall the results showed little change.

Overseas the Company's results in Canada remained good. Australia continued to show improved profitability and L'Escaut produced better results. Underwriting experience in New Zealand and Holland and in our South African subsidiary was disappointing.

Although the underwriting results of The Mercantile and General were similar to last year the transfer to Profit and Loss Account showed a significant improvement.

The Shareholders' Funds of the Group were increased by some £30m during 1977 by the acquisition of the shares of The Standard Trust Limited. The Group solvency margin at 31 December 1977 was 53%.

Bonuses on the Company's participating life and annuity business have been declared as follows:-

Ordinary Branch Assurances (United Kingdom)

(a) Reversionary bonus: 24.40% (£4.20%)

(b) Terminal bonus for policies issued in 1978 (1975) or earlier payable on claims by death or maturity in the twelve months commencing 1 April 1978. (Examples shown below.)

Year of issue

1968 £15.30 (£12.40)

1963 £21.00 (£27.60)

1958 £47.00 (£43.60)

1948 £83.60 (£72.70)

1938 £118.60 (£96.10)

1928 £140.00 (£117.40)

Industrial Branch Assurances

(a) Reversionary bonus: 22.80% (£2.60%)

(b) Terminal bonus for policies issued in 1978 (1975) or earlier payable on claims by death or maturity in the twelve months commencing 1 April 1978. (Examples shown below.)

Year of issue

1968 £14.10 (£9.20)

1963 £28.40 (£23.70)

1958 £43.00 (£38.70)

1948 £73.90 (£66.20)

1938 £104.50 (£87.50)

1928 £126.00 (£106.60)

Group Pensions Business (United Kingdom)

The rate of annual bonus under deferred annuity contracts has been increased to £7.00% compound (£6.50%) and under cash accumulation contracts to £4.90% compound (£4.40%).

Other Business

The rates of bonus on United Kingdom personal retirement annuity plans have been increased and increases have been made in some bonus rates for overseas business.

Prudential

The Prudential Assurance Co. Ltd. 142 Holborn Bars, London EC1N 2NH.

Grindlays Holdings Limited

51% of the shares of Grindlays Bank Limited are held by Grindlays Holdings which is quoted on The Stock Exchange, London.

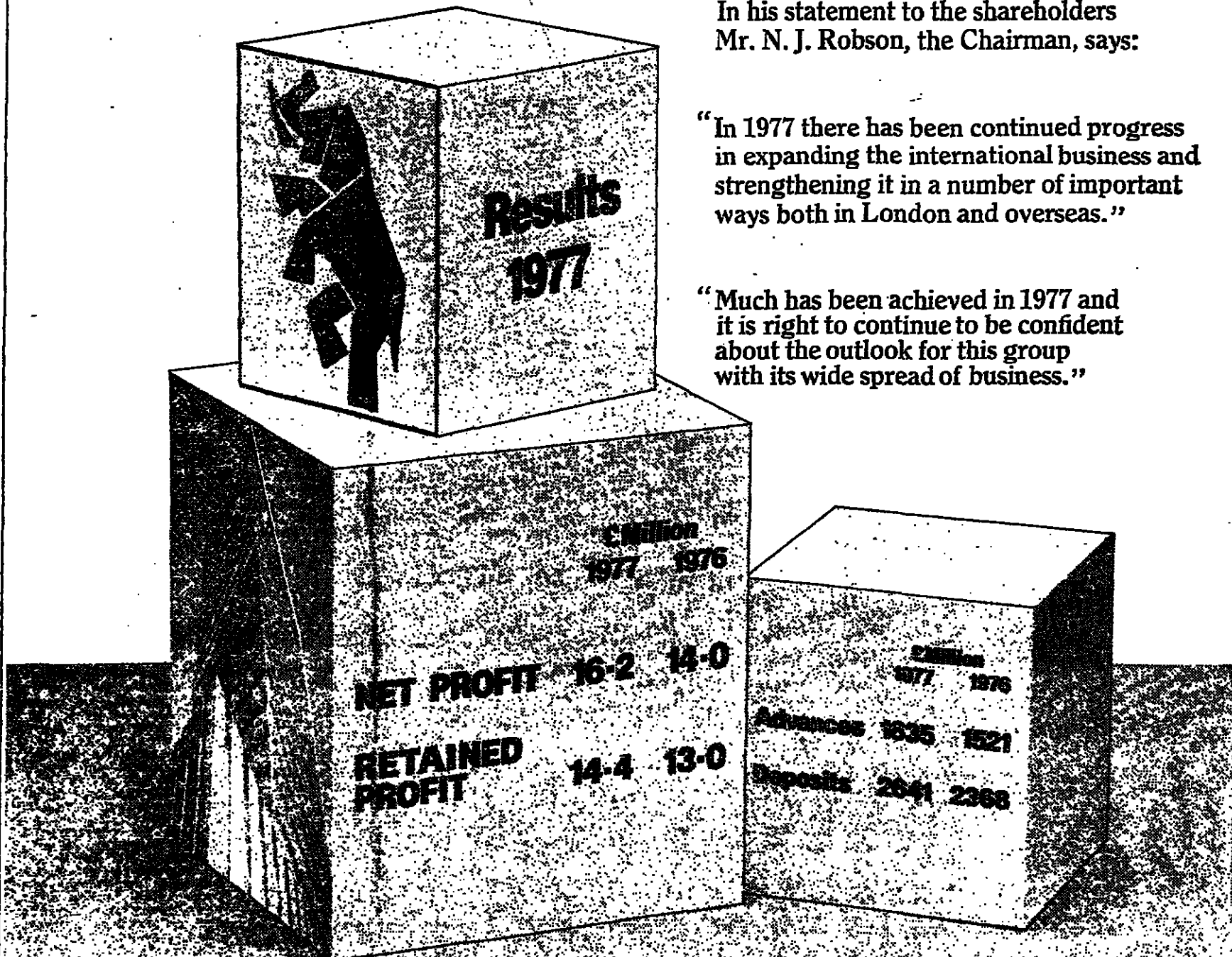
Grindlays

A name you can bank on around the world

In his statement to the shareholders Mr. N. J. Robson, the Chairman, says:

"In 1977 there has been continued progress in expanding the international business and strengthening it in a number of important ways both in London and overseas."

"Much has been achieved in 1977 and it is right to continue to be confident about the outlook for this group with its wide spread of business."



Grindlays Bank Group

23 Fenchurch Street, London EC3P 3ED

INTERNATIONAL FINANCIAL AND COMPANY NEWS

Precious metals the one bright spot for Degussa

BY GUY HAWTHIN
THE RISE in the price of precious metals has lifted Degussa's turnover by 13 per cent, during the first five months of the current business year which ends in September.
However, this is just about the only source of satisfaction that the Frankfurt-based metals and chemicals concern can draw from its current business performance. World demand for its chemicals products remains slack, while margins have been pared by the downward course of the dollar.
Herr Gert Becker, who succeeded Herr Paul Ungerer as chief executive at the end of last year, said that without a 30 per cent increase in precious metals sales, overall turnover for the opening five months would have fallen by 2 per cent, against the comparable period of 1976/77. In the chemicals sector sales fell 5.5 per cent.
From January 1977 to late

Goodrich to cut stake in Yokohama Rubber

By Douglas Ramsey
TOKYO, March 30.
JAPAN's number two tyre maker, Yokohama Rubber, confirmed at its annual meeting this afternoon that its top shareholder, B. F. Goodrich of the U.S., will begin by the summer to phase down its 33.6 per cent stake in the company, which recorded a net loss equivalent to about \$15m last year.
The meeting was given details of the company's losses in 1977. Sales were up 5.3 per cent to ¥148m (some \$665m.) but the company suffered regular losses of ¥2.7bn (¥144m or \$65m), primarily as a result of continued "depressed prices" in the Japanese market for rubber products. On top of its regular losses, the company also posted "special" losses of ¥3bn (the recall of defective tyres, and of a further ¥800m, or so on disposal of property and in other areas.)
To cover the tyre-quality losses, Yokohama Rubber hired off assets or withdrew from special provisions inside the company a total of ¥2.5bn. Of this, ¥1.5bn came from the sale of securities. By contrast, such sales had been marginal in 1976, despite Yokohama Rubber's already high level of losses at that time.
As a result, Yokohama Rubber was able to reduce its net losses for the term from what would otherwise have been more than a ¥6bn loss (without the special sales and transfers to an advertising account) to ¥3.3bn—an increase of ¥600m, or the company's net loss in 1976.
Yokohama's financial plight is apparently continuing in the first half of 1978, according to sources inside the company, and may be even more serious than in 1977.
The reason for the reshuffle appears to be Goodrich's decision to deconsolidate its Japanese subsidiary at a time when its losses are mounting. By reducing its stake below 20 per cent, B. F. Goodrich would not need to disclose as part of its U.S. consolidated results its share of Yokohama Rubber's losses.
Negotiations for transferring the first 4 per cent tranche of B. F. Goodrich's shares are already underway with Yokohama Rubber's leading banks, notably Dai-ichi Kangyo Bank (DKB). It has been tacitly agreed that the first tranche will be taken up by DKB, the Industrial Bank of Japan, Asahi Insurance and other major shareholders, rather than by resorting to outside partners.
But some confusion has resulted from DKB's role since it already has a 4 per cent stake in the company and, under Japanese law, must keep its stake to 5 per cent, or less. Therefore, although DKB is primarily responsible for overseeing Yokohama Rubber's finances, it cannot take a major portion of B. F. Goodrich's shareholding without a special exemption from the Ministry of Finance.
Although the matter will not cause major problems for the initial transfer of 4 per cent of stock (much of which can go to fellow minority shareholders), the transfer of the loosely-knit Furukawa Industrial group, to which Yokohama Rubber belongs, the bank's ceiling may force the company to turn to new shareholders for help in absorbing the nearly 4 per cent of Yokohama Rubber's shares which the American company wants to give up.
Saiden Prefab Homes' after tax profit rose from ¥8.45bn to ¥8.54bn, (\$4.8m), in the first half of 1977, reports Dai-ichi Kangyo Bank. Sales totalled ¥261.5bn, (\$117m), against ¥237.5bn, previously. An unchanged dividend of ¥15 is declared.

Foreign drug companies face call to Indianise

BY OUR OWN CORRESPONDENT
NEW DELHI, March 30.
The new policy envisages no further expansion in capacity by foreign companies making household medicines, a freeze in the price of 100 bulk drugs and the abolition of brand names on five still unnamed drugs.
Mr. Bahuguna also declared that foreign firms with a turnover of more than \$625m, a year would be required to invest 20 per cent of their capital outlay on new research and development facilities.
The government is to set up a committee to identify those companies employing "high" technology though the criteria it will employ are still unclear.
The new regulations follow a government decision to encourage the growth of new Indian investment.
The government is to set up a committee to identify those companies employing "high" technology though the criteria it will employ are still unclear.
The new regulations follow a government decision to encourage the growth of new Indian investment.

Hongkong Land pays record dividend

By Daniel Nelson
HONG KONG, March 30.
HONG KONG LAND, which dominates the colony's select central district but has been steadily diversifying overseas, has boosted its post-tax net profits for 1977 by 14 per cent, and is recommending a record dividend. The company also anticipates higher profits and dividends for 1978, with developments planned and under construction ensuring "strong" future earnings growth.
The profit figure was \$HK\$29.5m (\$US\$49.8m) for the year to December 31, up from \$HK\$20.17m in 1976. Earnings per share also increased 14 per cent, from 42 to 48 cents in line with an average annual compound growth rate of 15.1 per cent between 1972 and 1976.
As a result of the continued improvement in group earnings, a record dividend is recommended. A final of 28 cents, raising the total from 33 to 61 cents a share. This represents a 15.2 per cent dividend increase, with the payment covered 1.28 times. Dividends increased 11 per cent annually between 1972 and 1976.
The directors state that the group's financial resources are soundly based and sufficient to meet current requirements. They have been supplemented by a \$HK\$300m international bond issue during the year. The bonds were issued in bearer form by the company's wholly-owned subsidiary in Bermuda, Hongkong Land International.
Recent major developments, Hong Kong Land reports that Gloucester Tower, the new 45-storey commercial building in central district, is now under construction and will add 500,000 square feet of lettable space by mid-1980. The group's \$HK\$600m township in Hokkaido is already 65 per cent sold, and the first phase, consisting of 1,982 flats, should be ready for occupation by mid-1978.
The 1977 net profit rise fulfils expectations of some analysts who forecast that profits will increase by about 15 per cent, a year with a considerable jump in 1980-82, when profits could be in the \$HK\$400m range.

Convertible from Commerzbank

BY OUR OWN CORRESPONDENT
FRANKFURT, March 30.
40% lower profits after tax and proposals for an issue of convertible bonds by way of rights were unveiled to third largest of Germany's joint stock banks, Commerzbank, at its annual general meeting on March 30.
A dividend of DM\$50 per share, against DM\$49 per share in 1976, was recommended. Shareholders who have German shares will receive DM\$13.25. The dividend payout amounted to DM\$108.5m, about the same sum as for 1976. Again some DM\$50m was allocated to

Walker share issues plan

BY JAMES FORTH
AUSTRALIA's largest meat group, J. F. Walker plans share issues to institutions and shareholders following a sharp lift in profit for the December half-year.
At the same time the four and baking group Allied Mills has agreed to sell its 25 per cent stake in Walker to the New Zealand group Waitaki NZ Refrigerating. The deal is subject to approval by Australia's Foreign Investment Review Board and the relevant New Zealand authorities.
The proposed sale which is amicable will realise about \$4.4m (\$6.6m) for Allied Mills. Walker directors said that they believed the acquisition by Waitaki would bring substantial material advantages to the company. These would include access to Waitaki's widespread export marketing organisation and high technology techniques in lamb processing and sheepskin treatment.
Waitaki is one of New Zealand's largest companies with shareholders' funds of \$NZ\$280m. It owns nine major meatworks and has many other diversified activities.
Walker boosted profit for the

Walker share issues plan

DECEMBER half-year by 57 per cent, from \$A\$1.1m to \$A\$1.76m, on a 30 per cent lift in sales to \$A\$75.3m.
The directors said that cattle numbers processed at the company's meatworks increased 22 per cent, an area was a marked improvement in sales, primarily for the domestic market.
For the current half year it appeared that cattle slaughtering in Queensland and New South Wales would remain heavy and volumes should be maintained at all levels.
The directors said they were concerned at prices being obtained for beef on many international markets.
While there had been a major increase in rates for beef sold to the U.S., large quantities were being sold—often to countries well able to afford higher prices—at rates down to 50 per cent of those for the U.S. The average export price still resulted in "deplorably low" incomes from many specialist beef producers, particularly those marketing export type cattle. A further

Walker share issues plan

concentrated effort was needed by Government and industry to reduce low-priced selling to some countries.
The interim dividend is raised from 3 cents to 3.25 cents. However, the Board has forecast that the annual rate will be held at last year's 6.5 cents on capital increased by new share issues.
It is proposed to make a private issue of 1.45 million shares at 55 cents each to selected institution investors. This will be followed by a one-for-six rights issue at 70 cents. The issues will raise a total of \$A\$3.3m.
BHP closure
Broken Hill Pty (BHP) is to close its Whyalla shipyards at the end of July when work on the last vessel to be built there is completed. Reuter reports from Adelaide. The yard is presently building a BHP coal carrier.
BHP says it is trying to place as many of the 700 workforce at the yards as possible in jobs at the BHP Whyalla steelworks. Whyalla is the last remaining yard in Australia building large vessels, the company noted.

Rise in activity in Gulf area

BY MARY CAMPBELL
IN A week which has generally been quiet, the main interest has been on the Gulf area. A mandate to arrange a two-rhine loan for Qatar has been awarded to a group of four banks. London bankers also report that Gulf International Bank will be lead manager for a \$60m loan for the Bahrain National Oil Company, though it is not yet clear whether the mandate has been formally issued.
A decision on a mandate for the United Arab Shipping Company's \$100m loan is now expected imminently, and it seems that the terms will be more favourable to the borrower than had hitherto been expected.
The Qatar loan will be in two parts: The bulk of the total \$60m is destined for the Qatar Steel Company and is to follow up financing to last year's Euromarket loan. The remainder, which is expected to be in the region of \$30m, is for the Qatar Fertiliser Company. A particular interesting feature of the latter tranche is that it will be made in Qatar Riyals.
The mandate to arrange the financing has been awarded

Rise in activity in Gulf area

jointly and equally to Abu Dhabi Investment Company, Chase Manhattan Ltd., Gulf International Bank and Qatar National Bank. The terms of the loan will include a ten-year maturity (with five years' grace before repayments start), and a margin over inter-bank rates of 1 per cent for the first four years and 1 1/2 per cent for the last six.
The terms of the Bahrain Oil Company's \$60m loan are expected to include a seven-year final maturity, with the margin set at 1 per cent for the first three years and 1 1/2 per cent for the last four.

Offshore fund launched

BY ANTHONY ROWLEY
SINGAPORE, March 30.
AN OFFSHORE investment fund, Capital Fund, has been launched here by an influential group of Japanese and local institutions to channel substantial funds from Singapore into Japanese securities and Asiadollar bonds.
The inclusion of the State-run Post Office Savings Bank among the principal shareholders of the closed-end fund is seen as a move to deploy part of the substantial surpluses built up by the bank in investments outside of Singapore.
In an attempt to damp down the almost embarrassingly large flow of public funds into the POSB, the Singapore Finance Minister, Mr. Hon Sui Sen, last week announced he was considering ending the tax-free status on deposits with the POSB, which has 5 per cent interest and, which, it is alleged, are being

Offshore fund launched

used as a source of tax avoidance by wealthy investors.
Another problem for the POSB is finding uses for its funds and the launching of the Asia Capital Fund, which is incorporated in the Cayman Islands, is seen as one way round this. The fund will be "floated" to investors in Singapore and elsewhere, a statement said.
Other shareholders in the venture are Daiwa Securities Company of Japan, the semi-State Development Bank of Singapore, DBS-Daiwa Securities International, a merchant bank, and United Overseas Bank, one of the "big-four" Singapore banks. These and the POSB are also shareholders in another company, Daiwa and Partners Asia Capital Management Company, which will manage the Asia Capital Fund.

Hungary to invest in the West

LUXEMBOURG, March 30.
THE Hungarian authorities have established a holding company in Luxembourg for the purpose of acquiring major interests in Western European companies.
The holding company, Globinvest S.A., was entered on the Luxembourg trade register on March 7. It is capitalised at \$30,000 and owned by Interag, the Hungarian state trading organisation.
According to the entry in the register, Globinvest is "to see interest in Luxembourg and foreign enterprises."
Globinvest is said here to be interested in acquiring stakes of more than 25 per cent in European companies through stock purchases, outright purchases of stocks or other transactions.
Small and medium-sized companies in manufacturing, telecommunications, electronics and other areas would be the chief targets for such acquisitions by Globinvest, it is thought.
Interag, through the Luxembourg company, would try to gain access to the products and technology of the companies in which it will hold interests, and thus contribute to a West-East transfer of technology.
The Hungarians are also trying to create a permanent market for some of their exports, especially manufactured products, by means of long-term sales contracts with Globinvest affiliates.

Arbed to spend heavily

LUXEMBOURG, March 30.
PLANS to spend something like \$800m on a five-year programme of streamlining and modernisation have been unveiled by Arbed, the Luxembourg steel group which is currently at the centre of a major restructuring of the steel industry in Germany's Saarland.
The programme, aimed at returning Arbed to profit, is not finalised yet, but an outline has been presented to Luxembourg government officials and trade union representatives.
Essentially, Arbed wants to cut out non-profitable installations and emphasise production lines that promise to bring better earnings. The company lost LFr\$4.5bn in 1977.
Despite these heavy losses Arbed has been able to take control over virtually the entire steel industry in the neighbouring West German Saarland state. The aim of the takeover is to restructure the ailing Saarland steel industry, which has capacity of about 5m tons of crude steel annually.
Arbed is also in the process of taking control over Metallurgique et Miniere de Rodange, a steel maker with production facilities in Belgium and Luxembourg and annual crude steel capacity of near 1m metric tons. Arbed confined reports that the company is in contact with three steel-making companies in the Belgian area around Charleroi on a "co-operation" agreement.
Such co-operation would be

Arbed to spend heavily

aimed at co-ordinating production, emphasising viable installations and closing obsolete facilities. Talks are in an early stage. Arbed does not plan to take a financial interest in the Charleroi steel-makers.
* * *
PAPETERIES de Belgique, Belgium's major papermaker, reports a net profit of \$Bfr\$30.1m for 1977 up from \$Bfr\$3.5m in 1976. A net dividend of \$Bfr\$3.35 per share is proposed against \$Bfr\$3.30. Societe Generale de Belgique, the major Belgian holding company, and West Germany's paper company Feldmuehle AG, of the Flick Group, hold major interests in Papeteries de Belgique. The proposed dividend for 1977 is exclusively based on earnings. Contrary to 1975 and 1976 when annual profits had to be augmented to allow dividend payments.
* * *
French-owned petroleum products group, Total Holdings (Australia), lifted profit from \$A\$1.5m to \$A\$8.08m (\$US\$5.8m) in 1977, writes James Forth from Sydney. The directors said the improvement resulted partly from higher sales, aided by easier supply conditions, than applied in 1976. They added that 1977 was generally free of major product shortages and periods of industrial unrest. The company was also able to process a greater proportion of local crude oil in 1977.

Strong gain at China Provident

BY OUR OWN CORRESPONDENT
HONG KONG, March 30.
HUTCHISON Whampoa subsidiary, China Provident, increased its consolidated profit for 1977 by 178 per cent to \$HK\$50.6m (\$US\$11m), a 10 per cent increase over 1976. This is some \$HK\$10m more than the forecast at the half-way stage, when net profit was \$1 per cent, up at \$HK\$5.5m.
The total available for distribution is \$HK\$12.1m, and the final dividend will be 5 cents making a total of 60 cents, an increase of 72 per cent over 1976.
Cargo handling earnings appear to have made a larger contribution, but the main profit boost is apparently from property

Strong gain at China Provident

interests—valued in the Hutchison-Whampoa Dock merger document at \$HK\$408m—particularly a commercial-residential development with 1,832 flats, all of which have been sold.
* * *
End-1977 cash and short term investments totalling \$A\$27.3m, together with \$A\$22.1m to be raised on the final two calls due April and September on its contributing shares will be sufficient to satisfy Woodside Petroleum's 1978 expenditure requirements, reports Reuter from Melbourne.
After the calls Woodside will have a paid capital of \$A\$240m, 50-cent par shares.

NEW ZEALAND AIRLINES MERGER

A success story with a future

BY DAI HAYWARD IN WELLINGTON
TOMORROW, New Zealand is scheduled to merge its two state-owned airlines, the international long carrier, Air New Zealand, and the internal airline National Airways Corporation.
This politically inspired move has encountered opposition especially from those associated with the internal service, but the cabinet decided on the merger which will save about \$NZ\$20m through the operation of joint services.
The merger will help Air New Zealand fight increased competition, through the arrival of new airlines and the introduction of cheap fares in the Pacific region.
Air New Zealand has never since it began operating in 1940, under the name of Tasman Empire Airways, recorded a loss. Last year it made a record net profit of \$NZ\$1.67m (\$1.8m), net profit—more than double the \$NZ\$5.5m, up up the previous year. This itself was a jump from \$NZ\$4.3m in 1974-75. The airline's continued success story has been led by two main factors—aggressive marketing particularly in its own area of the South West Pacific, and service to customers.
Last year was a year of records for the airline, total revenue at \$NZ\$207.5m, (up 28 per cent), broke the \$NZ\$200m barrier for the first time. Seat occupancy was 63.3 per cent, and cargo tonnage went up from 83m, tonnes to 110m, tonnes.
There was also a big jump in the profit margin. It represents 6.1 cents profit in each dollar of revenue, compared with 3.37 cents the previous year.
While some of the additional passenger revenue was the result of higher fares, it was mainly generated by traffic. The airline is now carrying more passengers over significantly longer distances.
Air New Zealand believes in getting the maximum possible use from its aircraft. Throughout the year, the average daily flying time of each aircraft is twelve hours 24 minutes. During the peak months, this climbed to fourteen hours, achieved despite the fact that five aircraft had extended lay-offs for alterations to the aircraft.
Because of its isolation from the rest of the world's air routes, particularly in its early days, Air New Zealand had to develop its own engineering and catering facilities. These are now not only a valuable asset, but are being marketed to other airlines and

NEW ZEALAND AIRLINES MERGER

A success story with a future

operation and is likely to become more so with the increasing number of international carriers now landing at Auckland. Last year the engineering and catering contracts earned \$NZ\$28.6m—most of it in overseas funds.
The airline is an extremely valuable contributor to New Zealand's overseas earnings. Last year 63 per cent of its total revenue was in foreign exchange.
Passenger traffic during the year received a boost from Air New Zealand's arrangement with British Airways which enables both airlines to offer a daily service in the same DC 10 aircraft from Auckland to London. Air New Zealand crews operate the service to Los Angeles where it is taken over by British Airways crews for the remainder of the journey. This attracted considerable passenger business from family groups.
The U.K. and Europe provided 8 per cent of its total passenger revenue. The biggest proportion of passengers—39 per cent—originated from within New Zealand, with Australia providing 25 per cent, and North America 24 per cent. The Pacific Islands, Japan and the Orient provided 7 per cent.
Last year the company borrowed \$NZ\$165m, to meet current needs, particularly the acquisition of new DC-10 aircraft. The biggest worry facing Air New Zealand as it goes into the merger with National Airways Corporation is the pressure to introduce cut-price fares in the Pacific region from new and existing operators.
Air New Zealand has already

NEW ZEALAND AIRLINES MERGER

A success story with a future

introduced cuts of up to 50 per cent in fares between New Zealand and the U.S. This act has led to renewed demands in Australia for cheaper air fares to North America because even when paying the trans Tasman airfare, Australians can now travel cheaper to the U.S. from New Zealand than they can from their own country.
Some of the newer airlines such as Air Pacific, owned by the Fiji Government, are also pushing for a bigger share of the traffic in and out of New Zealand.
However, Air New Zealand holds a stake in Air Pacific and in several other small Pacific airlines, including Cook Island Airways and Polynesian Airlines, so passengers wooed to these will not altogether be lost.
When the small population of New Zealand, the short hauls and the isolated communities it serves is compared to more heavily inhabited countries, NAC's record is a good one.
It has not gone unnoticed by Australian Aviation commentators that NAC's fare structure is lower over all distances than that of the major Australian airlines.

NEW ZEALAND AIRLINES MERGER

A success story with a future

provided a useful contribution to the overall profits.
The Airline's engineering division not only has a high reputation but many lucrative contracts year the engineering and catering contracts earned \$NZ\$28.6m—most of it in overseas funds.
The airline is an extremely valuable contributor to New Zealand's overseas earnings. Last year 63 per cent of its total revenue was in foreign exchange.
Passenger traffic during the year received a boost from Air New Zealand's arrangement with British Airways which enables both airlines to offer a daily service in the same DC 10 aircraft from Auckland to London. Air New Zealand crews operate the service to Los Angeles where it is taken over by British Airways crews for the remainder of the journey. This attracted considerable passenger business from family groups.
The U.K. and Europe provided 8 per cent of its total passenger revenue. The biggest proportion of passengers—39 per cent—originated from within New Zealand, with Australia providing 25 per cent, and North America 24 per cent. The Pacific Islands, Japan and the Orient provided 7 per cent.
Last year the company borrowed \$NZ\$165m, to meet current needs, particularly the acquisition of new DC-10 aircraft. The biggest worry facing Air New Zealand as it goes into the merger with National Airways Corporation is the pressure to introduce cut-price fares in the Pacific region from new and existing operators.
Air New Zealand has already

This advertisement is issued in compliance with the requirements of the Council of The Stock Exchange. It is not an invitation to any person to subscribe for or purchase any securities of Gadek (Malaysia) Berhad.

GADEK (MALAYSIA) BERHAD

Authorised M\$3,500,000	Share Capital In Shares of M\$1 each	Issued and fully paid M\$2,868,529
----------------------------	---	---------------------------------------

Loan Capital

10 per cent. First Mortgage Debenture Stock 1982/88	M\$2,910,929
--	--------------

The Council of The Stock Exchange has admitted all the above 2,868,529 issued Shares of M\$1 each and all the above Debenture Stock of Gadek (Malaysia) Berhad to the Official List. Particulars relating to Gadek (Malaysia) Berhad are available in the statistical service of Exel Statistical Services Limited and copies of such particulars may be obtained during usual business hours on any weekday (Saturdays excepted) up to and including 14th April, 1978, from—
de Zoete & Bevan,
25 Finsbury Circus,
London, EC2M 7TE.
and at The Stock Exchange.

The Property Market

BY JOHN BRENNAN

Cool reaction to CLA changes

FEW cheers greeted this week's relaxation of Government controls over local authority land purchase under the Community Land Act.

The Act's many critics in the property market see the changes as minor adjustments to a basically unworkable scheme. And its supporters complain that insufficient finance is still preventing the "positive planning" aspects of the legislation from showing through.

Under the community land scheme local authorities are able to buy land and sell or lease it to private developers. But the authorities need Department of the Environment permission to borrow the purchase money for land acquisition. Now, lower interest rates and the upswing in the demand for development land has enabled the DoE to rescind earlier, restrictive guidance notes to the authorities on the operation of the scheme.

The key changes announced this week counter earlier guidance restricting loan sanctions to land where the acquisition costs could reasonably be expected to be recouped within two or three years. The DoE will now look favourably upon loan applications for land "where the net annual cash flow line shows a positive figure within a reasonable period of time."

In certain cases authorities will be allowed to buy land that shows, "much longer break-even dates, or even continuing losses provided that they can be offset by other, more profitable cases." And for the first time authorities

are invited to submit proposals for schemes, "even where the financial profiles are pessimistic," if they can put a case that "wider economic or social benefits outweigh the costs."

The DoE will look particularly kindly on such

potentially loss making purchases in the inner city development areas.

The DoE also promises discussions with the authorities to re-instate the rolling land purchase programmes, and block loan



Mr. Hugh Rossi, Conservative Party spokesman on building and land: "The community land scheme has proved to be one of this Government's major embarrassments..."

allocations that were considered when the CLA was first framed.

The DoE has not, however, altered its budget for loan sanctions, which was slashed in the 1976 public sector spending cuts. The budget allowed £90m. in 1976-77, £32m. in 1977-78 and a projected £54m. in 1978-79 rising to £33m. in 1979-80 and to £102m. in the following two years.

The DoE relaxations have not shaken Mr. Hugh Rossi's commitment to abolish the CLA "at the earliest available opportunity." The Conservative Party's spokesman on building and land sees the scheme as "one of this Government's major embarrassments. It was heralded by Anthony Crossland as the Government's single most socialist measure and by John Silkin as a total solution to the land problem. But it has fallen flat on its face."

Mr. Rossi sees basic, irresolvable flaws in the scheme.

He argues that local authorities, "by their very composition and nature do not possess the entrepreneurial skills necessary to identify land ripe for development. And he feels that the CLA, combined with, "penal levels of Development Land Tax has discouraged private individuals from bringing forward land for development and has created a severe land famine which the house building organisations view with great concern."

Mr. Rossi's opposition is echoed by the British Property Federation, which has also called for the abolition of the CLA.

The Federation believes that the relaxations may "give a spur to joint local authority and private developments." But it still "deplores" anything that makes it easier for the local authorities to compulsorily purchase development land. And the Federation does not believe that "it is necessary for land to pass through the hands of the authorities in order to be developed."

The Royal Town Planning Institute sees the move from short term financial considerations in

land purchase as a "vindication of planners' professional concern."

strengthening of the positive planning elements in the scheme. The Institute feels that the wider scope for loan sanctions will help to overcome the problem of authorities, which, until now, have not taken up even the meagre budget allowed for the scheme. And it "heartily welcomes" the prospect of rolling programmes of land purchase which, by doing away with individual loan investigations, would save considerable time and manpower.

But the Institute, which has a working party now studying the scheme, feels strongly that the overall DoE loan allocation is "clearly inadequate."

Clifford Dan, chairman of the Royal Institution of Chartered Surveyors working party on the CLA, is unmoved by the new DoE guidance.

"Any removal of constraints," he says, "is of obvious importance to the local authorities. But they will in no way meet the fundamental problems of the scheme... what is needed is a thorough review of the total legislation."

Mr. Dan's working party, which reported earlier this month, considered a wide range of possible amendments to its current CLA to overcome its current operational inadequacies. But the working party came down in favour of the Act's repeal and a transfer of its positive planning role to normal planning powers and taxation.

In Brief...

A PRE-LETTING on a new Birmingham office development at over 25 a square foot? Impossible. Well, accountants and Coopers and Lybrand are believed to be deep in discussion with Scottish Equitable Life Assurance on just such a pre-letting on the life office's 30,000 square foot scheme in the heart

of the city's professional area by Rackhams Stores on Temple Row.

Shipway, Doble and Earle Scottish Equitable's advisers are keeping quiet about the possible pre-letting, but confirm that pre-letting negotiations around that rent are underway. The block should be completed in mid-1979 when the insurer will take a small office suite for itself, and separately market a 4,500 square foot ground floor banking hall. Temple Row is, however, the exception that proves the general rule in Birmingham, where Bernard Thorpe and Partners calculate that there is still 800,000 sq. feet of modern office space standing empty in the centre and a further 350,000 sq. feet in Edgbaston, an overhang that keeps prime rents in the £2.50 to £3 a sq. foot range.

Low prime rents have all but killed the market for secondary space in the city, and this falling market will be further hit with the completion later this year of the Property Services Agency's £7.5m. extension to its Five Ways centre. The new building will drain 350 civil service jobs from older property around the city.

Birmingham now represents the largest remaining area of void space in MEPC's portfolio — with 28,400 sq. feet at Attwood House in New Street, 113,000 sq. feet left in its Broadway scheme and 54,000 sq. feet left in Metropolitan House. In a drive to fill this space MEPC is to break new ground with a marketing campaign on Television and local commercial radio. The commercial, running for five weeks from early April, are aimed at the real decision makers in potential tenant companies, the secretaries.

ALBANY Life Assurance, a subsidiary of the £3,000m. American General Insurance Group, made its first foray into property this



Priory House, Orpington, is to be the new headquarters building of the combined Harris Carpets/Queensway Discount Warehouses group. Harris, advised by Smith Melack, has taken a 25-year lease on Priory Buildings' 27,270 sq. ft. block at £3.65 a sq. ft. Hill, Welch and Co. represented Finer. The move releases Queensway's 13,700 sq. ft. offices at Norfolk Towers, Norwich, which agents are offering at £2 a sq. ft.

week with the £224,000 purchase of Maceress's (a BP subsidiary) warehouse on the South Braddon Trading Estate. Albany's new Property Bond Fund, advised by Knight Frank and Rutley and Warburg Investment Management, got an 11.5 per cent. yield on the purchase, a discount price reflecting low reversionary prospects on high-rented space. Albany, which has U.K.-managed funds of £5m., is to expand the Property Bond with a bias towards £1m. and £2m. units. Sounds familiar.

SAVE, the conservation group, won't approve of Tesco's new superstore at Neasdon, to judge by its "scourge of Britain's High Streets" views on store architecture in Building Refurbishment magazine this week. But Tesco, which beat 50 others

to the contract for a store on of Maceress's (a BP subsidiary) British Rail's 46-acre site by warehouse on the South Braddon Trading Estate. Albany's new Property Bond Fund, advised by Knight Frank and Rutley and Warburg Investment Management, got an 11.5 per cent. yield on the purchase, a discount price reflecting low reversionary prospects on high-rented space. Albany, which has U.K.-managed funds of £5m., is to expand the Property Bond with a bias towards £1m. and £2m. units. Sounds familiar.

Nick Irvine, EPC's development expert, beat an alternative scheme proposed by Bernard Sunley and the French group Garmont.

Property Deals appears on Page 36

INDUSTRIAL AND BUSINESS PROPERTY

(K) for Industry

BRIGHTON (Have)

New Warehouse Units from 9,000 sq. ft. TO LET — Available late 1978

ERDINGTON

Last remaining Warehouse/Factory Unit 15,500 sq. ft. Site for further development 10/40,000 sq. ft. TO LET

GLOUCESTER

Factory/Warehouse 9,770 sq. ft. Site Area 76 acres TO LET

HORNCHURCH, Essex

Modern Single Storey Warehouse 9,000 sq. ft. TO LET

JUNCTION ONE, M.1

New Warehouse/Offices 19,000 sq. ft. TO LET

KINGS CROSS

Modern Single Storey Warehouse with Offices 14,160 sq. ft. TO LET

LEWES, Sussex

New Factory/Warehouse Units 3,850-38,000 sq. ft. TO BE LET

LUTON

60,000 sq. ft. Factory incl. 20,000 sq. ft. Offices TO LET

King & Co

Chartered Surveyors
1 Snow Hill, London, EC1
01-236 3000 Telex 885485
Manchester, Leeds and Brussels

FOR SALE

Freehold 60,000 Sq. Ft.

Office Building, EC2

AIR-CONDITIONING CAR PARKING
Vacant Possession 1980 or possibly earlier

Principals Only

Write Box T4854, Financial Times, 10 Cannon Street, EC4P 4BY.

AVAILABLE NOW in NORTHAMPTON

OFFICE BUILDINGS

Immediately available in town centre

Greyfriars House

200 000 sq ft of offices above the new bus station

Belgrave House

73 000 sq ft forming part of Grosvenor Centre

Anglia House

30 000 sq ft in prime position

Other properties from 500 sq ft to 10 000 sq ft

OFFICE SITES

Immediately available in town centre, district centre and campus locations

Town centre site of 3.5 acres

For up to 300 000 sq ft (or can be sub-divided to a minimum of 100 000 sq ft)

Town centre sites

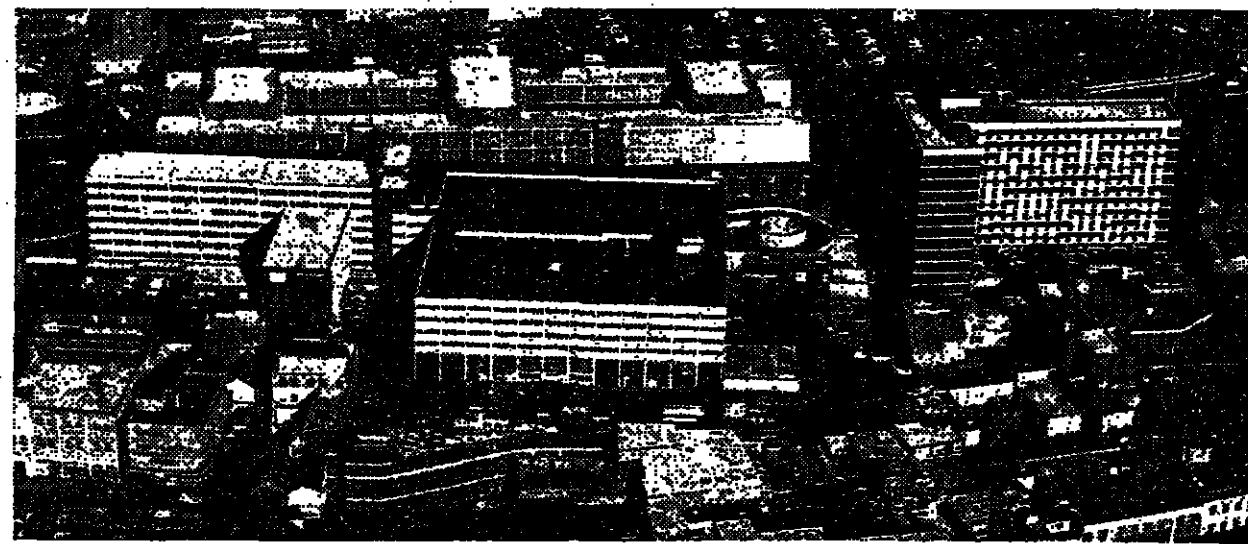
One for 40 000 sq ft One for 50 000 sq ft

District centre sites

For up to 100 000 sq ft at Weston Favell Centre

Campus sites

73 acres available at Moulton Park



There is a wide range of houses to rent or buy. Northampton has all the facilities of an established town.

For further information write or phone L Austin-Crowe BSc FRICS, Chief Estate Surveyor, Northampton Development Corporation, 2-3 Market Square, Northampton NN1 2EN. 0604 34734

01-930 9731

INDUSTRIAL PROPERTY

To let

London S.E.1	3,900-28,000 sq.ft.
Bridge of Don	7,350 sq.ft.
Bedford	units from 5,000 sq.ft.
Norwich	units from 3,800 sq.ft.
Great Yarmouth	units from 3,700 sq.ft.
Bletchley	units from 3,600 sq.ft.
Lowestoft	units from 3,250 sq.ft.
Chelmsford	3,100 sq.ft.
Droitwich, Worcs	units from 2,000 sq.ft.

Clients' requirements

S.W. London	50,000 sq.ft. or 3 acre site
N.E. London	10,000-20,000 sq.ft.
Plymouth	6,000 sq.ft.

DRIVERS JONAS
18 PALL MALL, LONDON SW1Y 5NF

PRELIMINARY ANNOUNCEMENT

Upon instructions from the Principals of

SWANCLEAN SERVICES

ROSANS AUCTIONS

(Croydon Auction Rooms)

announce an important sale on the premises of

SWAN LAUNDRY (NORWICH) LIMITED

Heigham Street, Norwich, Norfolk

Power Laundry and Dry-Cleaning Plant and Machinery and Related Equipment, Canteen and Office Furniture

on

THURSDAY, APRIL 20th, 1978

Sale commences 11.30 a.m.

Further details from Auctioneers:

144/150 London Road, Croydon, Surrey. Tel: 01-888 1123/4/5

LONDON SW1.

AN AIR-CONDITIONED OFFICE BUILDING OF APPROX. 22,000 SQ.FT.

TO LET

Apply to Box No. T4850 Financial Times, 10 Cannon Street, EC4P 4BY.

Offices Office sites Factories Warehouses

Telephone:
0733-68931

Ext 326

Chief Estates Surveyor
Peterborough
Development
Corporation

PO Box 3 Peterborough PE1 1UJ

NEW BROAD ST. LONDON E.C.2.

Superb
Banking Hall/Offices
2,500 SQ. FT.

TO LET

Apply Joint Agents:

Hillier Parker
May & Rowden

38 King Street, London EC2V 8BA. 01-606 3851.



Thomas and Atkins

62 Cannon Street, London EC4N 6AE. 01-236 4122.

OFFICE DEVELOPMENT SITE

28,000 Sq. Ft.

GROSS
SOUTH HARROW

- ★ Outline consent obtained for the erection of an office building of 28,000 sq. ft. with parking for 50 cars and provision of a service road.
- ★ Detailed consent applied for
- ★ No user restriction



Willowcross & Co.
Chartered Surveyors

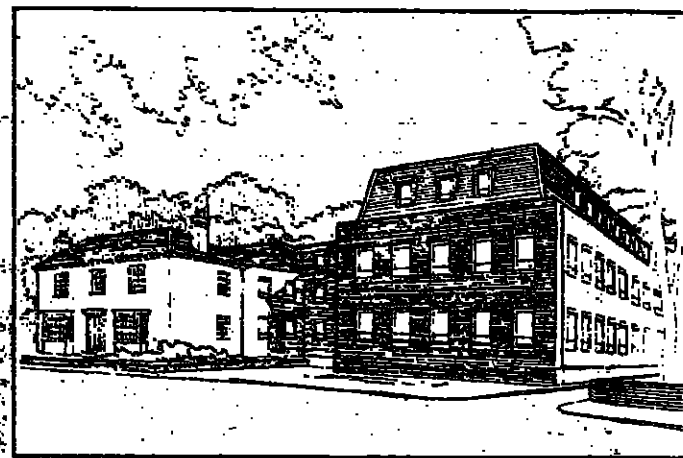
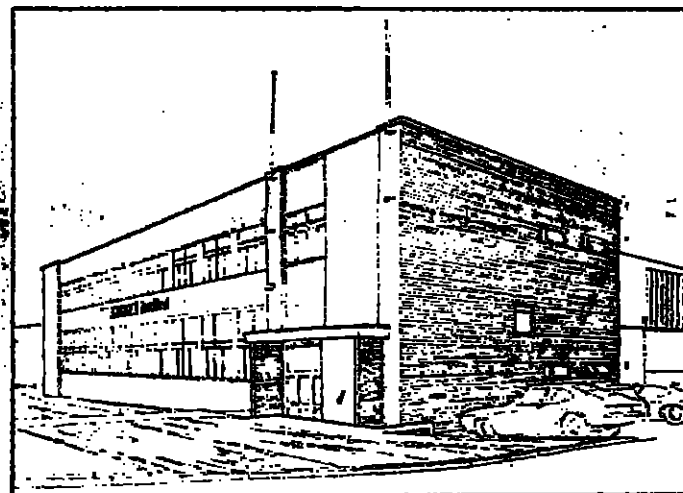
5/6 Staple Inn
Holborn,
London
WC1V 7QU
Tel: 01 242 4321

Industrial
Property**at the touch of a button.**
One of the JIW COMPUTON services**Milton Keynes.**
Factory/Warehouse Units
To Let plus land available for
development 5/100,000 sq. ft.**Maidenhead Berks.**
Factory/Warehouse To Let.
11-26,000 sq. ft.**Near Northampton.**
Factory To Let. 52,500 sq. ft.**Southend, Essex.**
Factory To Let. 17,000 sq. ft.**Aylesford, Kent.**
Factory/Warehouse Buildings For Sale.
17/29/37,000 sq. ft.**Bootle, Merseyside.**
Factory/Warehouse To Let.
108,000 sq. ft. on 6 acres.**Bristol Avon.**
Warehouse + Offices To Let. 10,000 sq. ft.**JONES LANG
WOOTTON**
Chartered Surveyors
Industrial Dept.
33 King Street, London EC2V 8EE.
Tel: 01-606 4060. Telex: 885537.

AN IDEAL LOCATION...

BEDFORD

London 50 miles • Between M1 and A1

Chailey House, overlooking River Ouse, Bedford.
16,200 sq. ft. prestige offices. (Connells)Nem House, Bromham Road, Bedford.
7,230 sq. ft. offices close to town centre.
Open-plan layout. (Kilroy).Elms Industrial Estate. Recently-built
factory/office premises. 32,000 sq. ft.
(Designed, built and financed by
Hunting Gate Developments Ltd.).For particulars of these properties and most medium and large business premises
available in North Bedfordshire apply to:- **D.J. PHIPPS, CHIEF ESTATES SURVEYOR,**
NORTH BEDFORDSHIRE BOROUGH COUNCIL,
TOWN HALL, BEDFORD
TELEPHONE BEDFORD (0234) 67422.**14 New Bridge St. E.C.4**The First Building Available On The
Historic Bridewell Site.
A Superb Office Building Of
6,400 sq. ft. Approx.

For Further Details Apply Sole Agents

**PILCHER
HERSHMAN**

Tel: 01-486 5256

**Hastings****LAND AVAILABLE NOW!**
FOR OFFICE - INDUSTRY - HOUSING
RING ANYTIME (0424) 428306

Ask for BILL COBB (Hastings Borough Council)

AUCTION REMINDER
UXBRIDGE
SHOP/SHOWROOMS
3,800 SQ. FT.
Frontage - 52 ft.
Car Park - 6,500 sq. ft.
Offices (Let) - 1,855 sq. ft.
FREEHOLD
FOR SALE BY AUCTION
7th, 8th & 9th 1978
FARR BEDFORD
41 The Broadway W5.
01-579 7282**Mayfair**8,250 sq. ft. of Prime,
Air-Conditioned Office Space
on one floor**Chestertons** Chartered Surveyors
Office property75 Grosvenor Street, London, W1X 0JB
01-499 0404 Telex 8812560
and in the City of London - Kensington
Hyde Park - Little Venice - Chelsea**Harold Williams**
Bennett & Partners**EXCELLENT SINGLE STOREY
FACTORY****16,500 sq. ft.****WILLOW LANE, MITCHAM****TO BE LET OR LEASE FOR SALE**56 Park Lane, City of London
01-686 3141**MODERN OFFICES TO LET**

TWO INSTRUCTIONS FROM BARCLAYS BANK

CITY HOUSE, SOUTHWARK ST. S.E.1**6,800 SQ. FT.****ENTIRE SECOND FLOOR**

- ★ FULL CENTRAL HEATING
- ★ 2 AUTOMATIC PASSENGER LIFTS
- ★ FULLY CARPETED
- ★ DOUBLE GLAZING
- ★ SPACIOUS RECEPTION AREA
- ★ KITCHEN
- ★ RECREATION ROOM
- ★ IMPRESSIVE GROUND FLOOR ENTRANCE HALL

TABARD HOUSE, SOUTHWARK ST. S.E.1**8,500 SQ. FT.**

- ★ AUTOMATIC PASSENGER LIFT
- ★ FULL CENTRAL HEATING
- ★ CONFERENCE ROOM
- ★ CAR PARKING
- ★ DOUBLE GLAZING
- ★ 2 KITCHENS
- ★ RECREATION ROOM
- ★ FLUORESCENT LIGHTING

**GL Hearn
& PARTNERS**44-48 Borough High Street
London Bridge, SE1 1XP
01-407 5321**ENTIRE
MODERN
OFFICE BUILDING**
APPROX.
32,000 sq. ft.
CLOSE
HOLBORN (KINGSWAY)
CENTRAL LINE STATION
TO LET**BERNARD THORPE**
1 Buckingham Palace Rd., SW1.
01-834 6890

Brooklands Industrial Park
WEYBRIDGE, SURREY

Factories and
Warehouses
to Let

Units of 50,000 to 300,000 sq. ft.

Headroom up to 40ft.
Substantial open
storage and car parking.

**FULLER
PEISER**

3-4 Holborn Circus
London EC1N 2HL
Tel: 01-363 6651
Telex: 259716

STRATFORD, London E15
3 factories/warehousesUNIT A
10,720 sq ftUNIT B
18,730 sq ftUNIT C
24,810 sq ft**TO LET**

or freehold available

apply to joint sole agents

MICHAEL KALMAR & Co
Bridge House Queen Victoria Street
London EC4V 4EX Tel: 01-236 6671**King & Co**
Chartered Surveyors.
1 Snow Hill, London EC1 Tel: 01-236 3000

Chartered Surveyors Property Consultants

DONALDSONS70 Jermyn Street
London SW1Y 6PE
01-930 1090**LUTON**7,850 sq. ft.
Prestige office building
To let**WANTED**Single shops or parades
For refurbishment
Southern England**WATFORD**Small office suites
To let
6 or 12 months**STANMORE**2,800 sq. ft.
Offices
To let**GUILDFORD**14,000 sq. ft.
Headquarter offices
For sale**GOLDERS GREEN ROAD**Shop to let
£9,250 p.a.

A magnificent refurbishment
of 43,000sq.ft. air-conditioned offices



A Development by the
Church Commissioners for England

CONDOR HOUSE

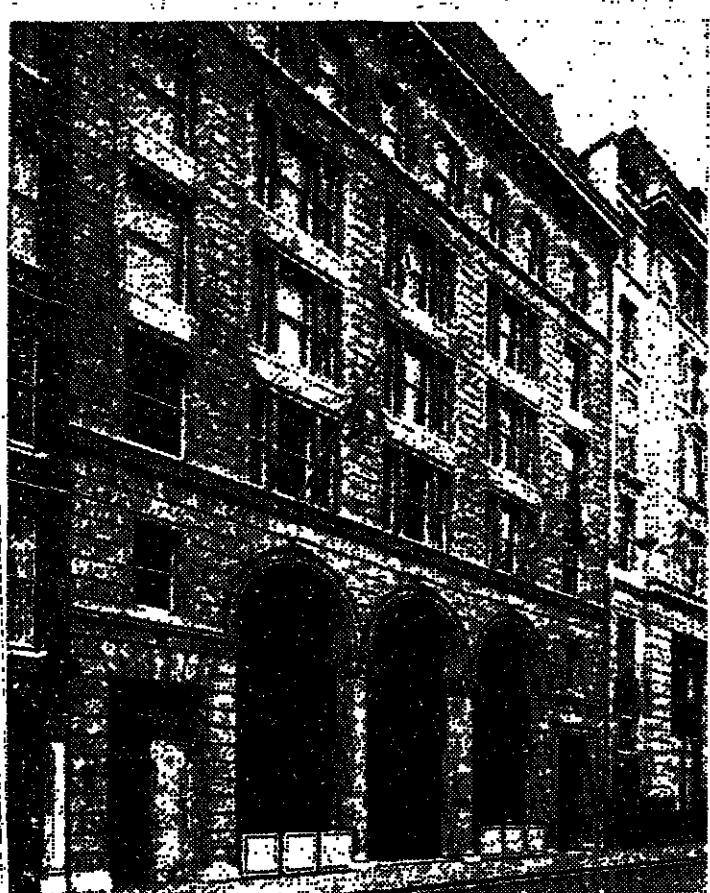
St. Paul's Churchyard,
London EC4

- * Prestige location * Impressive Entrance Hall
- * Full double glazing * Carpeted throughout

01-491 2768

Cluttons

74 Grosvenor Street, London W1X 9DD



65/68 Leadenhall St.
London EC3

Prestige Office Accommodation

up to **12,550 sq.ft.**
To Let

apply joint sole agents

ALLSOP & CO

6 Poultry, London EC2R 8ET. Telephone: 01-248 1451

SINCLAIR GOLDSMITH

Chartered Surveyors
5/10 Fenchurch Street London EC3M 3BE 01-623 6644 Telex 28556
West End Office: 20/22 Batten Street, London W1X 8AH

TRAINING MANCHESTER ESTABLISHMENT

Sedgley Park
College of Education
Prestwich, Manchester

An opportunity to acquire training facilities for 600 students
with on-site residential facilities for 190, set in a site area of
11.4 acres/4.61 hectares.
Manchester City centre three miles/5 kilometres. M62 motorway
access point No. 17, 1 1/2 miles/2.5 kilometres.

WHEELER WOOD & REDMOND

26 King Street

Chartered Surveyors and Estate Agents

Manchester M2 6AY

Tel.: 061-834 1337/8

REGENT STREET, W.1 (OR) NEW OFFICE ACCOMMODATION

7,800 sq. ft.

ONLY £6.60 per sq. ft.

New Lease, C/H, Lift, Prestige Entrance Hall
Ground Floor Showroom & Basement
Also Available in Same Building

SOLE AGENTS

Davis & Co

62, Berners St. London W.1 P 4DX
Telephone 01.637 1061

FOR SALE BY TENDER
READING
70/71 & 72 BROAD STREET
• TWO FIRST CLASS SHOPS
• NATIONAL MULTIPLE TENANTS
• LONG LEASEHOLD
• HIGHLY REVENUARY
Closing date 12 noon, Thursday, 27 April, 1978. Ref: J.B.
Leavers
100, The Quadrant, Reading RG1 1AA
Tel: 0116 250000

PROPERTY DEALS

A 'safety net' for Fleming

JOHN Newman of The Fleming Property Unit Trust has signed up an interesting safety net for the Trust's £3.5m speculative warehouse development in Croydon. Fleming has become funding partner to Godfrey Bradman's London Mercantile Holdings on Mercantile's 6.7 acre, former ICL site at Thornton Road, Croydon. Mercantile paid £1.25m, for the freehold site last autumn, and the developer, advised by Lambert Smith and Partners, plan to build 161,400 square feet of industrial and warehouse space over the next 18 months.

Fleming's financing deal includes a guarantee from the developer to pay the Trust 9 per cent. interest on development finance relating to any building standing empty a year after completion. In this way the Trust either gets its expected 8 per cent. net return on the warehousing, or 9 per cent. from Mercantile on finance provided for empty space.

This variation of a temporary lease-back to the developer provides additional security for the financing institution. But in this case, with a shortage of well located modern industrial space in Croydon, Fleming is unlikely to have to fall back on the void arrangements.

Around a third of the Croydon space has already been provisionally prelet at more than the initial asking rent of £2.15 a square foot. Fleming and Mercantile share equally any benefit from lettings made at more than this base rent.

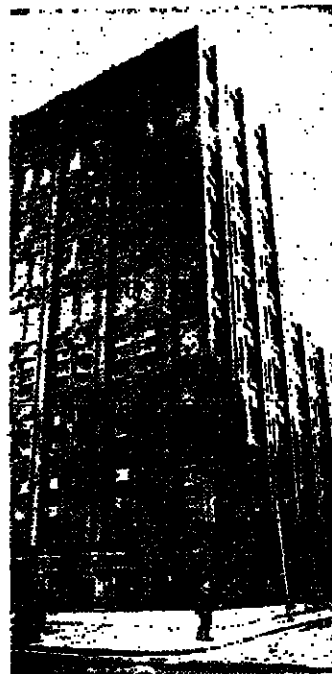
The Croydon scheme is Fleming's largest single investment in the first quarter of 1978, and brings the total value of the Trust to £89m. Mr. Newman feels that the current portfolio spread of just under 40 per cent. in offices, 17.4 per cent. in shops, 28.7 per cent. industrial and 4 per cent. agricultural land is a satisfactory balance for the time being, although he expects problems in maintaining the proportion of shop properties next year.

Mr. Newman echoes the recent comments of Cecil Baker, chairman of the £200m. Property Unit Trusts Group, who feels that property yields are now "historically low." But The Fleming director is less concerned than Mr. Baker about "overheating in the property market."

"We still have piles of propositions coming across my desk," says Mr. Newman, although, "much of it is rubbish." He feels that even in this seller's market there is still scope to invest the £25m or so that flows into Fleming's Trust each year. "Yields are very low and property is historically expensive. But the potential for growth, even at these levels is still good."

The £21m. Merchant Investors Property Fund takes the same line. In the March edition of its Investors' Bulletin 311 comments that "We would agree there is a danger that some buyers who are chasing after the strictly limited supply of new prime in-

vestments... may forget to do their arithmetic and invest at yields which can only be justified by rental growth of an optimistically high order." But the fund sees "no shortage of opportunities for attractive property investments." It buys "prime" in terms of location, but buys well above published "low" yields by taking on space which refurbishments, lease restructuring, marriage value of combining interests and so forth, give an added profit potential.



Computer group Honeywell I.S. has taken the remaining 19,418 sq. ft. of Land Securities' 30,000 sq. ft. redevelopment at 74-78, Finchbury Pavement, E.C.2. Land Securities' subsidiary, City of London Real Property, had been asking just over £11 a sq. ft. for the air-conditioned block. Knight, Frank and Rutley advised the developer, and Tony Charnock acted for Honeywell, which will move into the lower four floors below the other recently signed tenants, accountants Thompson McLintock.

HUME Property Investments, a private investment trust, has sold its 2,000 year head leasehold (from the City Corporation) on Matheson House, EC3, to National Employers Life Assurance for £2.1m. The Life Office gets an initial yield of just 4.2 per cent. on the 17,000 square foot alterations block. But a 35 year underlease to a Jardine Matheson subsidiary, Matheson and Co., comes up for its first seven-yearly rent review next year, and current rents of £5.16 a square foot show their December 1972 vintage. Hume was advised by Richard Ellis, Hamptons acted for National Mutual.

J.B.

KENSINGTON LONDON W.8.

HEADQUARTERS OFFICE BUILDING

APPROX. 28,000 SQ.FT.

FREEHOLD FOR SALE

OR MIGHT LET

Apply Sole Agents.

Hillier Parker
May & Roudon

77 Grosvenor Street, London W1A 2BT.
Telephone: 01-629 7866
and City of London, Edinburgh, Paris, Amsterdam, Australia

84 & 86 Borough High Street SE1 TO LET

ANOTHER DEVELOPMENT BY
THE GRAYLAW GROUP
7500 sq. ft. NET



- * AUTOMATIC PASSENGER LIFT
- * CENTRAL HEATING
- * DOUBLE GLAZING
- * CARPETED THROUGHOUT

Edwin Hill & Partners
127 Southwark Bridge Road SE1 01 407 9944

A genuine demand from investors who have registered with me continues unabated. Owners of sound Freehold Commercial Investments let to single tenants on F.R. 5.1 Leases, within price bracket £50,000 to £500,000.
Please Contact: JACK MENDONZA F.S.A., 168, Blandford Road, Hove, (0273 723795)

WANTED

Land for
industrial
and commercial
development
within
30 miles
London

**FRANK DURRANT,
WESTMORE & REEVES**
Chartered Surveyors
46 Cannon Street
London EC4N 6JP
Tel: 01-248 1851

146 BISHOPSGATE
London EC2

Office Units of 4,020 sq.ft. to 21,885 sq.ft. To Let

- 3 Automatic Passenger Lifts
- Fitted Carpets throughout
- Central Heating
- Porterage
- Double Glazing
- Entrances from Bishopsgate and Devonshire Row

Richard Ellis, Chartered Surveyors
64 Cornhill, London EC3V 3PS Tel: 01-283 3090

Richard Ellis



WIDNES

SINGLE STOREY FACTORY

FLOOR AREA 70,000 SQUARE FEET
SITE AREA 42 ACRES
CENTRAL HEATING SPRINKLERED
VACANT POSSESSION
FREEHOLD FOR SALE

INTERNATIONAL PROPERTY

I CONTROL 4.75 ACRES

including 1,000 linear feet of finest Caribbean beachfront and operate a highly successful cottage resort occupying less than 1 of property. The timing is right for development of more units or condominiums and would consider joint venture with investor or contractor. Expansion projected to yield 20% p.a. safely plus one month's free vacation in Caribbean for each participant. Principal visiting London 1-14 June for discussions with interested parties.

Write Box T.4855.

Financial Times, 10, Cannon Street, EC4P 4BY

Clwyd at the peak of Welsh potential

With its large, multi-skilled workforce, proximity to major markets and national/international communications networks, this progressive Welsh county dominates the north-western development scene. The news in Clwyd is about sales, not strikes - and it's a great place to live, too.

Talk to us about the low-cost sites and fast-track extensive financial aid available to incoming industries - we'll make you a deal you can't refuse. Contact Wayne S. Morgan, County Industrial Officer, Clwyd County Council, Shire Hall, Mold (tel. Mold 2121) for free colour brochure.

FREEHOLD SHEFFIELDClose M1 Motorway
Modern Single Storey**FACTORY**In 2 bays
12,470 sq. ft.Craneage. C.H. Good loading
P.P. for additional building**SITE 1.7 acres**
FOR SALE**OWARDSYMONS**
PARTNERS
7518 Royal Exchange, Manchester M2 7EN.
3 at London & Nottingham.
Tel: 061-832 8494**CLASSIFIED COMMERCIAL PROPERTY****SHOPS AND OFFICES****MODERN SELF**
CONTAINED OFFICE
BUILDING
CENTRAL HEATING
GAR PARKING
CLOSE TO CITY
9820 SQUARE FEET
ONLY £1.75 p.s.f.
NO PREMIUM**Keningtons**
01-499 8994**FREEHOLD OFFICE**
BUILDING FOR SALE
City Location
13,000 sq. ft. approx.
Principals Only.
Write Box T4853.
Financial Times,
8, Cannon Street, EC4P 4BY**WANTED**
OFFICES WANTED
by International Co.
25/35,000 sq. ft. approx.
30 Mile Radius of Slough
Parking Facilities Essential
Write Box T4851.
Financial Times,
8, Cannon Street, EC4P 4BY**FREEHOLD OFFICE**
BUILDING FOR SALE
City Location
13,000 sq. ft. approx.
Principals Only.
Write Box T4853.
Financial Times,
8, Cannon Street, EC4P 4BY**WANTED**
OFFICES WANTED
by International Co.
25/35,000 sq. ft. approx.
30 Mile Radius of Slough
Parking Facilities Essential
Write Box T4851.
Financial Times,
8, Cannon Street, EC4P 4BY**WANTED**
OFFICES WANTED
by International Co.
25/35,000 sq. ft. approx.
30 Mile Radius of Slough
Parking Facilities Essential
Write Box T4851.
Financial Times,
8, Cannon Street, EC4P 4BY**MAJOR HOTEL SITE THE ROCKS SYDNEY, AUSTRALIA AVAILABLE FOR LEASE**

The Authority is offering a large vacant site adjacent to Circular Quay with unparalleled views over Sydney Harbour for redevelopment as a major hotel of international standard. Those individuals or groups interested in securing leasing and redevelopment rights over the site and who have not already signified that interest might care to do so by writing to The Secretary, C/- P.O. Box M408, Grosvenor Street, Sydney, 2000 Australia, by no later than Friday, 7 April, 1978.

Telephone: Sydney (02) 241-3462

SYDNEY COVE REDEVELOPMENT AUTHORITY**FACTORIES AND WAREHOUSES****MODERN LIGHT INDUSTRIAL PREMISES****BLAYDON TYNE & WEAR****79,000 sq. ft.**
production and 3,900 sq. ft. offices all set in freehold site of 6 acres approx. Suitable for clothing trade or warehousing. R.V. £19,500.**FREEHOLD FOR SALE**
Jolot Agent
STONEY SONS & PARKER
Higham House, New Bridge Street
Newcastle upon Tyne, NE1 8AU
Tel: 0632 26291**G. F. SINGLETON & CO.**
Lloyds Bank Building
53 King's Street, Manchester
Tel: 061-832 8271**FACTORIES/WAREHOUSES**
Tottenham, N.17.
3,000 sq. ft.
Clerkenwell Rd., EC1
From 2,300 sq. ft.
Thurrock, Essex
From 13,000 sq. ft.
Bedford
From 8,500 sq. ft.
Potters Bar
43,000 sq. ft.**PEPPER ANGLISS & YARWOOD**
Chartered Surveyors
8 Giltwick Place, London W1Y 6LL
Tel 01-499-6066**LINCOLN** 300 sq. ft. 1,100 sq. ft. warehouse with retail planning permission. An excellent opportunity for a cash and carry organisation to purchase a fully fitted single-storey building including heating, lighting, offices and toilets. Access to M1. R. Hoadley, 210 Junction Road, Ferry Barr, Birmingham B20 3DD. For SALE OR TO LET. Industrial Premises, Beccles, Suffolk. Approx. 8,250 sq. ft. of production space, offices, storage, etc. Ideal for manufacturing or distribution centre. These ready available. Car parking. Rent £5,200 p.a. in 3 terms for quick sale of freehold. For further details contact Mrs. J. Sherrington, Secretary, Ltd., Castle Hill, Hertford SG14 1LN. Tel: Hertford 54849**FOR INVESTMENT****BURY ST. EDMUNDS CENTRAL FREEHOLD SHOP INVESTMENT**Let at low rent of £780 p.a.
WITH VALUABLE REVERSION ON 1/1/1982
to estimated bare rent of £5,450 p.a.
Price £62,500 Freehold**H. C. WOLTON AND SON,**
Chartered Surveyors,
6 Whiting Street,
Bury St. Edmunds.
Tel: (0284) 61336**CHRISTCHURCH-DORSET**
Attractive Freehold Shop/Office
Investment producing £25,000 p.a. exclusive
25 year lease remaining and insuring lease: 5 year review. Entire property recently converted/refurbished completed to high standard throughout. Large car park. Prominent High Street trading position. Planning permission for further 2 shops with offices over. Offers on £245,000. Sole Agents.
BULLOCK & LEE,
4 Wick Lane, Christchurch.
Tel: (02015) 5187 or 6137.**RIPLEY DERBYSHIRE** freehold investment. Town Centre modern parade of shops & Discount Warehouse in prime trading position producing £5,800 p.a. on P.R. Lease. For Sale freehold. For further details apply to Messrs. Nottingham, 3 Bridgeway, Gate, Nottingham. Tel: 0602 5351.
LINCOLNSHIRE—Prime agricultural investment. 222 acres let on full requiring lease. For sale by tender closing date 17th April 1978. Ashby Stratton & Holborn, Chartered Surveyors, Chartered Land Agents, Lemon Villas, Truro, Cornwall. Tel: Truro 45466.**WANTED**
EX PUBLIC CO. CHAIRMAN has £150,000 family trust fund for residential property investments large or small, immediate completion. Tel: 258, High Road S.W.16. 769 2065.**JORDANIAN SYRIAN LAND TRANSPORT COMPANY**

Public Joint Venture

US \$ 12,000,000

Medium Term Loan

GUARANTEED BY:

THE HASHEMITE KINGDOM OF JORDAN**THE SYRIAN ARAB REPUBLIC**

MANAGED BY:

FRAB BANK INTERNATIONAL**UNION DE BANQUES ARABES ET FRANÇAISES - U.B.A.F.**

CO-MANAGED BY:

Arab African Bank (Cairo)

European Arab Bank (Brussels)

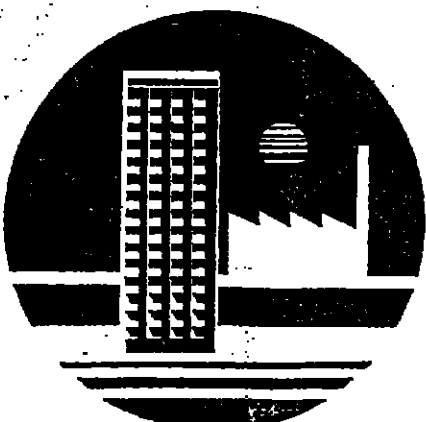
PROVIDED BY:

Arab African Bank (Cairo)
European Arab Bank (Brussels) S.A.
Frab Bank International
Midland Bank Limited
Security Pacific Bank
Union de Banques Arabes et Françaises - U.B.A.F. (Bahrain Branch)
Al Saudi Banque
Banque Arabe et Internationale d'Investissement (B.A.I.I.)
Gulf International Bank B.S.C.

AGENT:

FRAB BANK INTERNATIONALNew Issue
March 31, 1978This advertisement appears
as a matter of record only.**COMMONWEALTH OF AUSTRALIA**

U.S.\$ 350,000,000

8% U.S. Dollar Bearer Notes of 1978/1982**Deutsche Bank**
Aktiengesellschaft
Credit Suisse White Weld
Limited
Swiss Bank Corporation (Overseas)
Limited
Union Bank of Switzerland (Securities)
Limited
Amsterdam-Rotterdam Bank N.V.
Banque Nationale de Paris**The Bank of Bermuda**
Limited
Commerzbank
Aktiengesellschaft
Hill Samuel & Co.
Limited
Morgan Grenfell & Co.
Limited
Salomon Brothers International
Limited**Abu Dhabi Investment Company**
A. E. Ames & Co.
Limited
Arab Financial Consultants
Company S.A.K.
Banca del Gottardo**Bank Leu International Ltd.**
Banque Bruxelles Lambert S.A.
Banque de l'Indochine et de Suez**Banque Populaire Suisse S.A.**
Luxembourg
Banque Worms**Bayerische Hypotheken- und Wechsel-Bank**
Joh. Beranberg, Gossler & Co.**Berliner Handels- und Frankfurter Bank**
Cazenove & Co.**Christiania Bank og Kreditkasse****Crédit Commercial de France**
Crédit Lyonnais
Daiwa Europe N.V.**Deutsche Girozentrale**
— Deutsche Kommunalbank —
Dillon, Read Overseas Corporation**Effectenbank-Warburg**
Aktiengesellschaft
European Banking Company
Limited**Gefina International**
Limited**Greenfields**
Incorporated
Hessische Landesbank
— Girozentrale —**Internationale Genossenschaftsbank AG**
Kleinwort, Benson
Limited**Kuhn Loeb Lehman Brothers**
International
Kuwait International Investment Co. s.a.k.
Limited**Lloyds Bank International**
Limited
Merck, Finck & Co.
Samuel Montagu & Co.
Limited**Nasbirt, Thomson**
Limited
Nomura Europe N.V.**Sal. Oppenheim jr. & Cie.****Pierson, Holding & Pierson N.V.**
Privatbanken
Aktiengesellschaft
N. M. Rothschild & Sons
Limited
Singer & Friedlander
Limited**Smith Barney, Harris Upham & Co.**
Incorporated
Société Ségura de Banque
Trinkaus & Burkhart**Verains- und Westbank**
Aktiengesellschaft
Wardley
Westfälische Bank
Aktiengesellschaft**Banque Arabe et Internationale**
d'Investissement (B.A.I.)
Dresdner Bank
Aktiengesellschaft
Kidder, Peabody International
Limited
Morgan Stanley International
Limited
S. G. Warburg & Co. Ltd.**Alahli Bank of Kuwait (K.S.C.)**
Amex Bancom
Limited
Arnhold and S. Bleichroeder, Inc.**Banca Nazionale del Lavoro****Bank für Gemeinwirtschaft**
Aktiengesellschaft**Bank Mess & Hope NV**
Banque Française du Commerce Extérieur
Banque Internationale à Luxembourg S.A.**Banque Rothschild****Baring Brothers & Co.,**
Limited
Bayerische Landesbank
Girozentrale
Berger Bank**Caisse des Dépôts et Consignations**
Chase Manhattan
Limited
Citicorp International Group**Crédit Industriel d'Alsace et de Lorraine**
Crédit du Nord
Den Danske Bank
af 1971 Aktieselskab
Devassy & Associés International S.C.S.**Dominion Securities**
Limited
Euromobiliare S.p.A.
Compagnie Europeenne Immobiliere
First Chicago
Limited**Girozentrale und Bank**
der österreichischen Sparkassen
Aktiengesellschaft
Groupement des Banquiers Privés
Genevois
E. F. Hutton & Co. N.V.**Istituto Bancario San Paolo di Torino**
Kreditbank N.V.**Kuwait Financial Centre S.A.K.****Lazard Brothers & Co.,**
Limited
McLeod, Young, Weir International
Limited
Merrill Lynch International & Co.
National Bank of Abu Dhabi**The Nikko Securities Co. (Europe) Ltd.****Norddeutsche Landesbank**
Girozentrale
Ord Minnett Ltd.**PKBanken**
Renouf & Co.**J. Henry Schröder Wagg & Co.**
Limited
Skandinaviska Enskilda Banken**Société Générale****Société. Turnbull & Co.**
US-DB Corporation**J. Vontobel & Co.**
J. B. Werr & Son
Williams, Glyn & Co.**Banque de Paris et des Pays-Bas**
First Boston (Europe)
Limited
Manufacturers Hanover
Limited
Orion Bank
Limited
Wood Gundy Limited**Algemene Bank Nederland N.V.**
Andersens Bank A/S**Banca Commerciale Italiana****Bank of America International**
Limited
Bank Gutzwiller, Kurz, Bungenier
(Overseas)
Limited**The Bank of Tokyo (Holland) N.V.**
Banque Générale du Luxembourg S.A.
Banque de Neufville, Schlumberger, Mallet
Banque de l'Union Européenne**H. Albert de Bary & Co. N.V.****Bayerische Vereinsbank****Berliner Bank**
Aktiengesellschaft
James Capel & Co.
Chemical Bank International
Limited
County Bank
Limited**Crédit Industriel et Commercial**
Creditanstalt-Bankverein
Delbrück & Co.**DG Bank**
Deutsche Genossenschaftsbank
Drexel Burnham Lambert
Incorporated
Euro-Pacific Finance Corporation
Limited
Robert Fleming & Co.
Limited
Goldman Sachs International Corp.**Hambros Bank**
Limited
Industriabank von Japan (Deutschland)
Aktiengesellschaft**Kjøbenhavns Handelsbank**
Kreditbank S.A. Luxembourg**Kuwait Foreign Trading Contracting & Investment Co. (S.A.K.)**
Lazard Frères et Cie**Marine Midland Ltd.****B. Metzler seel. Sohn & Co.**
The National Commercial Bank
(Saudi Arabia)
R. Nivison & Co.**Den norske Creditbank****Paine, Webber, Jackson & Curtis**
Securities
Limited
Potter Partners
Rothschild Bank AG**Schröder, Münchmeyer, Hengst & Co.****N.V. Slavenburg's Bank****Société Générale de Banque S.A.****Svenska Handelsbanken**
Verband Schweizerischer Kantonalbanken
M. M. Warburg-Brinckmann, Wirtz & Co.
Westdeutsche Landesbank
Girozentrale
Yamaichi International (Europe)
Limited**A FINANCIAL TIMES SURVEY****INTERNATIONAL PROPERTY****MONDAY JUNE 5 1978**

The Financial Times proposes to publish a survey on International Property on Monday June 5 1978. The main headings of the provisional editorial synopsis are set out below.

INTRODUCTION Property dealers around the world have been polishing up real estate's recently tarnished image as the most secure of long-term investments. The dealers have been forced to redouble their normal propaganda efforts because of the evident gap between promise and performance in world property investment markets over the past four years.**THE MARKETS:****EUROPE:** FRANCE ☐ WEST GERMANY ☐ THE NETHERLANDS ☐ BELGIUM ☐ ITALY
IRELAND ☐ SCANDINAVIA ☐ EASTERN EUROPE ☐ SPAIN
NORTH AMERICA: THE UNITED STATES ☐ CANADA ☐ SOUTH AMERICA: BRAZIL
AFRICA: REPUBLIC OF SOUTH AFRICA ☐ NIGERIA
AUSTRALIA
FAR EAST: HONG KONG ☐ SINGAPORE ☐ JAPAN
MIDDLE EAST: EGYPT ☐ IRAN ☐ UNITED ARAB EMIRATES

For further details on the editorial content and advertising rates please contact

Terry Druce

Financial Times, Bracken House, 10 Cannon Street, London EC4P 4BY

Tel: 01-248 8000 Ext. 7196

FINANCIAL TIMES
EUROPE'S BUSINESS NEWSPAPER

The content and publication dates of Surveys in the Financial Times are subject to change at the discretion of the Editor.

WALL STREET - OVERSEAS MARKETS

Profit-taking pushes index down 2

BY OUR WALL STREET CORRESPONDENT

PRICES DRIFTED lower in moderate trading on Wall Street today, erasing some of the gains of the past two sessions.

At the close the Dow Jones Industrial Average was down 2.16 at 758.62, while the NYSE All Common Stocks index showed a loss of 12 cents at 839.53.

Volume fell to 20.46m. shares from yesterday's 25.43m., with declining issues outnumbering advancing ones 734 to 593.

The decline was prompted in part by profit-taking and in part by fears of higher interest rates amid mounting concern over the recent growth of the nation's money supply.

Airco was among the leading decliners, falling \$3 to \$40. EOC International, which yesterday said it was set to increase its interest in Airco to 35 per cent., announced today that it now owned 6,641,000 shares, about 34 per cent. of Airco's outstanding stock.

U.S. Steel also active, was steady at \$22—the company

defended its \$10.50 a ton price increase which drew Government criticism when announced yesterday.

National Steel, which raised prices \$3.50 a ton, picked up \$2 to \$29. Wheeling Pittsburgh Steel, which raised prices in line with U.S. Steel yesterday, was steady at \$9.

Among bright spots, Combined Communications rose \$1 to \$34. It recently called off merger discussions with an unidentified company.

On the AMERICAN SE prices dipped in light trading. The Ames index fell 0.08 to 128.86, while volume amounted to 2.99m. shares (3.70m.).

Other Markets

Prices moved up in busier trading on Canadian Stock Markets yesterday. The Toronto stock exchange index rose 1.9 to 1978.1, a high of 1,038.5, while the Montreal composite index advanced 0.35 to 180.77.

Japanese showed some good gains, the sector index jumping 15.5 to 880.9.

PARIS — Higher, following through Wednesday's buying and underpinned by the stability of the franc and the 1-point cut in overnight money to 8 per cent.

Switzerland — Quietly steady with increased stability of the franc and the 1-point cut in overnight money to 8 per cent.

JOHANNESBURG — Stocks were little changed, after an initial markdown in line

The largest gains were posted by Radioelectric up Frs.27 to 445. Moet, Frs.17 ahead at 440. BSN, Frs.19 higher at 434. Bouges, Frs.21 at 673. Printemps, Schneider and BCT.

Rhone-Poulenc gained Frs.3.9 to 71.0 on speculation that it might pay a higher dividend for 1977. Losses were rare but included Poulenc, PUK and Raffinage.

BRUSSELS — Mostly higher in moderate trading.

Colepa, Elasco, ACFC, Socfin and Nozane rose while FN fell Frs.3.20 to 2.565 and UCB Frs.3.20 to 864. Cometrax and Tessenard also lost.

Petrofina was unchanged.

AMSTERDAM — Firmer following Christian Democratic gains in the Dutch provincial elections, a steady dollar and firmer Wall Street.

Royal Dutch, up Fls.1.30 to Fls.129.10, led the gains in International, with only Hoogovens lower against the trend, dipping 30 cents to Fls.24.

GERMANY — Prices showed little movement in quiet trading. Commerzbank fell 30 pfennigs to DM.229.90 on disappointment over the slight 50 pfennig rise in the dividend to DM.9 and a fall in group net profit.

SWITZERLAND — Quietly steady with increased stability of the franc and the 1-point cut in overnight money to 8 per cent.

JOHANNESBURG — Stocks were little changed, after an initial markdown in line

NEW YORK, March 30.

Financials, Elektrowatt eased Sw.Frs.13 to 1,623, while Interfood "B." Landis Registered and Oerlikon-Eucler closed higher.

Jelmoll showed little reaction to its intended purchase of a majority stake in Union Handels-gesellschaft of Basle, gaining Sw.Frs.3 to 1,365. Almusuisse eased Sw.Frs.10 to 1,340 on its co-operation deal with Zaire on the construction of an aluminium mill there.

MILAN — Mixed in very thin trading. Fiat eased Lira 1,945 following the announcement of an unchanged dividend and distribution of shares.

Snia Viscosa rose Lira 311 in spite of news of a heavy deficit in 1977 on a reduction in recent selling pressure.

OSLO — Closing prices showed no clear trend.

VIENNA — Well-maintained. COPEHAGEN — Irregular, but with stocks tending higher.

MADRID — The recent recovery continued with a rise of 1.41 in the general index to 91.57. Turnover, however, remained very low.

The improved trend in a thin market over more to the withdrawal of sellers than to any noticeable buying pressure. Both over the slight 50 pfennig rise in the dividend to DM.9 and a fall in group net profit.

SWITZERLAND — Quietly steady with increased stability of the franc and the 1-point cut in overnight money to 8 per cent.

JOHANNESBURG — Stocks were little changed, after an initial markdown in line

FOREIGN EXCHANGES

STERLING LOST ground in the foreign exchange market yesterday, on fears about a continuing deterioration in the UK economy following the pessimistic annual review of the Cambridge Economic Policy Group. The suggestion that unemployment may rise sharply in the future and that the trade performance of Britain will be very poor, led to selling pressure on the pound, but this was prob-

ably not met by any intervention by the Bank of England.

Sterling opened at \$1.5750-1.5760, and touched \$1.5800, the highest level of the day, before falling to \$1.5730 at lunch. Following the opening of the New York market the pound fell to a low point of \$1.5650, but improved slightly on late natural demand to close at \$1.5610-1.5620, a fall of 2.05 cents on the day, and the lowest closing level since mid-December last year.

The pound's trade-weighted index as calculated by the Bank of England, fell to 62.2 from 62.8, the lowest closing level since the end of August last year, after standing at 62.5 at noon and in early trading.

Forward selling was quite firm under the circumstances, although the longer periods were rather weaker.

The U.S. dollar showed mixed changes against major currencies, falling slightly to Sw.Frs.1.8510 in terms of the Swiss franc, from Sw.Frs.1.8577, but easing to DM.2.0577 against the D-mark, from DM.2.0627. The dollar fell to 200.25 against the Japanese yen, from 200.50, at around 222.50 for most of the day. The dollar's index, on Bank of England figures, rose to 80 from 78.3.

Gold fell \$1 to \$179.180 in

STERLING LOST ground in the foreign exchange market yesterday, on fears about a continuing deterioration in the UK economy following the pessimistic annual review of the Cambridge Economic Policy Group. The suggestion that unemployment may rise sharply in the future and that the trade performance of Britain will be very poor, led to selling pressure on the pound, but this was prob-

ably not met by any intervention by the Bank of England.

Sterling opened at \$1.5750-1.5760, and touched \$1.5800, the highest level of the day, before falling to \$1.5730 at lunch. Following the opening of the New York market the pound fell to a low point of \$1.5650, but improved slightly on late natural demand to close at \$1.5610-1.5620, a fall of 2.05 cents on the day, and the lowest closing level since mid-December last year.

The pound's trade-weighted index as calculated by the Bank of England, fell to 62.2 from 62.8, the lowest closing level since the end of August last year, after standing at 62.5 at noon and in early trading.

Forward selling was quite firm under the circumstances, although the longer periods were rather weaker.

The U.S. dollar showed mixed changes against major currencies, falling slightly to Sw.Frs.1.8510 in terms of the Swiss franc, from Sw.Frs.1.8577, but easing to DM.2.0577 against the D-mark, from DM.2.0627. The dollar fell to 200.25 against the Japanese yen, from 200.50, at around 222.50 for most of the day. The dollar's index, on Bank of England figures, rose to 80 from 78.3.

Gold fell \$1 to \$179.180 in

STERLING LOST ground in the foreign exchange market yesterday, on fears about a continuing deterioration in the UK economy following the pessimistic annual review of the Cambridge Economic Policy Group. The suggestion that unemployment may rise sharply in the future and that the trade performance of Britain will be very poor, led to selling pressure on the pound, but this was prob-

ably not met by any intervention by the Bank of England.

Sterling opened at \$1.5750-1.5760, and touched \$1.5800, the highest level of the day, before falling to \$1.5730 at lunch. Following the opening of the New York market the pound fell to a low point of \$1.5650, but improved slightly on late natural demand to close at \$1.5610-1.5620, a fall of 2.05 cents on the day, and the lowest closing level since mid-December last year.

The pound's trade-weighted index as calculated by the Bank of England, fell to 62.2 from 62.8, the lowest closing level since the end of August last year, after standing at 62.5 at noon and in early trading.

Forward selling was quite firm under the circumstances, although the longer periods were rather weaker.

The U.S. dollar showed mixed changes against major currencies, falling slightly to Sw.Frs.1.8510 in terms of the Swiss franc, from Sw.Frs.1.8577, but easing to DM.2.0577 against the D-mark, from DM.2.0627. The dollar fell to 200.25 against the Japanese yen, from 200.50, at around 222.50 for most of the day. The dollar's index, on Bank of England figures, rose to 80 from 78.3.

Gold fell \$1 to \$179.180 in

STERLING LOST ground in the foreign exchange market yesterday, on fears about a continuing deterioration in the UK economy following the pessimistic annual review of the Cambridge Economic Policy Group. The suggestion that unemployment may rise sharply in the future and that the trade performance of Britain will be very poor, led to selling pressure on the pound, but this was prob-

ably not met by any intervention by the Bank of England.

Sterling opened at \$1.5750-1.5760, and touched \$1.5800, the highest level of the day, before falling to \$1.5730 at lunch. Following the opening of the New York market the pound fell to a low point of \$1.5650, but improved slightly on late natural demand to close at \$1.5610-1.5620, a fall of 2.05 cents on the day, and the lowest closing level since mid-December last year.

The pound's trade-weighted index as calculated by the Bank of England, fell to 62.2 from 62.8, the lowest closing level since the end of August last year, after standing at 62.5 at noon and in early trading.

Forward selling was quite firm under the circumstances, although the longer periods were rather weaker.

The U.S. dollar showed mixed changes against major currencies, falling slightly to Sw.Frs.1.8510 in terms of the Swiss franc, from Sw.Frs.1.8577, but easing to DM.2.0577 against the D-mark, from DM.2.0627. The dollar fell to 200.25 against the Japanese yen, from 200.50, at around 222.50 for most of the day. The dollar's index, on Bank of England figures, rose to 80 from 78.3.

Gold fell \$1 to \$179.180 in

STERLING LOST ground in the foreign exchange market yesterday, on fears about a continuing deterioration in the UK economy following the pessimistic annual review of the Cambridge Economic Policy Group. The suggestion that unemployment may rise sharply in the future and that the trade performance of Britain will be very poor, led to selling pressure on the pound, but this was prob-

ably not met by any intervention by the Bank of England.

Sterling opened at \$1.5750-1.5760, and touched \$1.5800, the highest level of the day, before falling to \$1.5730 at lunch. Following the opening of the New York market the pound fell to a low point of \$1.5650, but improved slightly on late natural demand to close at \$1.5610-1.5620, a fall of 2.05 cents on the day, and the lowest closing level since mid-December last year.

The pound's trade-weighted index as calculated by the Bank of England, fell to 62.2 from 62.8, the lowest closing level since the end of August last year, after standing at 62.5 at noon and in early trading.

Forward selling was quite firm under the circumstances, although the longer periods were rather weaker.

The U.S. dollar showed mixed changes against major currencies, falling slightly to Sw.Frs.1.8510 in terms of the Swiss franc, from Sw.Frs.1.8577, but easing to DM.2.0577 against the D-mark, from DM.2.0627. The dollar fell to 200.25 against the Japanese yen, from 200.50, at around 222.50 for most of the day. The dollar's index, on Bank of England figures, rose to 80 from 78.3.

Gold fell \$1 to \$179.180 in

STERLING LOST ground in the foreign exchange market yesterday, on fears about a continuing deterioration in the UK economy following the pessimistic annual review of the Cambridge Economic Policy Group. The suggestion that unemployment may rise sharply in the future and that the trade performance of Britain will be very poor, led to selling pressure on the pound, but this was prob-

ably not met by any intervention by the Bank of England.

Sterling opened at \$1.5750-1.5760, and touched \$1.5800, the highest level of the day, before falling to \$1.5730 at lunch. Following the opening of the New York market the pound fell to a low point of \$1.5650, but improved slightly on late natural demand to close at \$1.5610-1.5620, a fall of 2.05 cents on the day, and the lowest closing level since mid-December last year.

The pound's trade-weighted index as calculated by the Bank of England, fell to 62.2 from 62.8, the lowest closing level since the end of August last year, after standing at 62.5 at noon and in early trading.

Forward selling was quite firm under the circumstances, although the longer periods were rather weaker.

The U.S. dollar showed mixed changes against major currencies, falling slightly to Sw.Frs.1.8510 in terms of the Swiss franc, from Sw.Frs.1.8577, but easing to DM.2.0577 against the D-mark, from DM.2.0627. The dollar fell to 200.25 against the Japanese yen, from 200.50, at around 222.50 for most of the day. The dollar's index, on Bank of England figures, rose to 80 from 78.3.

Gold fell \$1 to \$179.180 in

STERLING LOST ground in the foreign exchange market yesterday, on fears about a continuing deterioration in the UK economy following the pessimistic annual review of the Cambridge Economic Policy Group. The suggestion that unemployment may rise sharply in the future and that the trade performance of Britain will be very poor, led to selling pressure on the pound, but this was prob-

ably not met by any intervention by the Bank of England.

Sterling opened at \$1.5750-1.5760, and touched \$1.5800, the highest level of the day, before falling to \$1.5730 at lunch. Following the opening of the New York market the pound fell to a low point of \$1.5650, but improved slightly on late natural demand to close at \$1.5610-1.5620, a fall of 2.05 cents on the day, and the lowest closing level since mid-December last year.

The pound's trade-weighted index as calculated by the Bank of England, fell to 62.2 from 62.8, the lowest closing level since the end of August last year, after standing at 62.5 at noon and in early trading.

Forward selling was quite firm under the circumstances, although the longer periods were rather weaker.

The U.S. dollar showed mixed changes against major currencies, falling slightly to Sw.Frs.1.8510 in terms of the Swiss franc, from Sw.Frs.1.8577, but easing to DM.2.0577 against the D-mark, from DM.2.0627. The dollar fell to 200.25 against the Japanese yen, from 200.50, at around 222.50 for most of the day. The dollar's index, on Bank of England figures, rose to 80 from 78.3.

Gold fell \$1 to \$179.180 in

GOLD MARKET

Gold prices were steady in the London market yesterday, with turnover described as moderately active. The Kruggerand's premium over its gold content was 3.10 per cent. for domestic and international delivery, compared with 3.05 per cent. and 3.10 per cent. respectively on Wednesday.

STERLING LOST ground in the foreign exchange market yesterday, on fears about a continuing deterioration in the UK economy following the pessimistic annual review of the Cambridge Economic Policy Group. The suggestion that unemployment may rise sharply in the future and that the trade performance of Britain will be very poor, led to selling pressure on the pound, but this was prob-

ably not met by any intervention by the Bank of England.

Sterling opened at \$1.5750-1.5760, and touched \$1.5800, the highest level of the day, before falling to \$1.5730 at lunch. Following the opening of the New York market the pound fell to a low point of \$1.5650, but improved slightly on late natural demand to close at \$1.5610-1.5620, a fall of 2.05 cents on the day, and the lowest closing level since mid-December last year.

The pound's trade-weighted index as calculated by the Bank of England, fell to 62.2 from 62.8, the lowest closing level since the end of August last year, after standing at 62.5 at noon and in early trading.

Forward selling was quite firm under the circumstances, although the longer periods were rather weaker.

The U.S. dollar showed mixed changes against major currencies, falling slightly to Sw.Frs.1.8510 in terms of the Swiss franc, from Sw.Frs.1.8577, but easing to DM.2.0577 against the D-mark, from DM.2.0627. The dollar fell to 200.25 against the Japanese yen, from 200.50, at around 222.50 for most of the day. The dollar's index, on Bank of England figures, rose to 80 from 78.3.

Gold fell \$1 to \$179.180 in

STERLING LOST ground in the foreign exchange market yesterday, on fears about a continuing deterioration in the UK economy following the pessimistic annual review of the Cambridge Economic Policy Group. The suggestion that unemployment may rise sharply in the future and that the trade performance of Britain will be very poor, led to selling pressure on the pound, but this was prob-

ably not met by any intervention by the Bank of England.

Sterling opened at \$1.5750-1.5760, and touched \$1.5800, the highest level of the day, before falling to \$1.5730 at lunch. Following the opening of the New York market the pound fell to a low point of \$1.5650, but improved slightly on late natural demand to close at \$1.5610-1.5620, a fall of 2.05 cents on the day, and the lowest closing level since mid-December last year.

The pound's trade-weighted index as calculated by the Bank of England, fell to 62.2 from 62.8, the lowest closing level since the end of August last year, after standing at 62.5 at noon and in early trading.

Forward selling was quite firm under the circumstances, although the longer periods were rather weaker.

The U.S. dollar showed mixed changes against major currencies, falling slightly to Sw.Frs.1.8510 in terms of the Swiss franc, from Sw.Frs.1.8577, but easing to DM.2.0577 against the D-mark, from DM.2.0627. The dollar fell to 200.25 against the Japanese yen, from 200.50, at around 222.50 for most of the day. The dollar's index, on Bank of England figures, rose to 80 from 78.3.

Gold fell \$1 to \$179.180 in

STERLING LOST ground in the foreign exchange market yesterday, on fears about a continuing deterioration in the UK economy following the pessimistic annual review of the Cambridge Economic Policy Group. The suggestion that unemployment may rise sharply in the future and that the trade performance of Britain will be very poor, led to selling pressure on the pound, but this was prob-

ably not met by any intervention by the Bank of England.

Sterling opened at \$1.5750-1.5760, and touched \$1.5800, the highest level of the day, before falling to \$1.5730 at lunch. Following the opening of the New York market the pound fell to a low point of \$1.5650, but improved slightly on late natural demand to close at \$1.5610-1.5620, a fall of 2.05 cents on the day, and the lowest closing level since mid-December last year.

The pound's trade-weighted index as calculated by the Bank of England, fell to 62.2 from 62.8, the lowest closing level since the end of August last year, after standing at 62.5 at noon and in early trading.

Forward selling was quite firm under the circumstances, although the longer periods were rather weaker.

The U.S. dollar showed mixed changes against major currencies, falling slightly to Sw.Frs.1.8510 in terms of the Swiss franc, from Sw.Frs.1.8577, but easing to DM.2.0577 against the D-mark, from DM.2.0627. The dollar fell to 200.25 against the Japanese yen, from 200.50, at around 222.50 for most of the day. The dollar's index, on Bank of England figures, rose to 80 from 78.3.

Gold fell \$1 to \$179.180 in

STERLING LOST ground in the foreign exchange market yesterday, on fears about a continuing deterioration in the UK economy following the pessimistic annual review of the Cambridge Economic Policy Group. The suggestion that unemployment may rise sharply in the future and that the trade performance of Britain will be very poor, led to selling pressure on the pound, but this was prob-

ably not met by any intervention by the Bank of England.

Sterling opened at \$1.5750-1.5760, and touched \$1.5800, the highest level of the day, before falling to \$1.5730 at lunch. Following the opening of the New York market the pound fell to a low point of \$1.5650, but improved slightly on late natural demand to close at \$1.5610-1.5620, a fall of 2.05 cents on the day, and the lowest closing level since mid-December last year.

The pound's trade-weighted index as calculated by the Bank of England, fell to 62.2 from 62.8, the lowest closing level since the end of August last year, after standing at 62.5 at noon and in early trading.

Forward selling was quite firm under the circumstances, although the longer periods were rather weaker.

The U.S. dollar showed mixed changes against major currencies, falling slightly to Sw.Frs.1.8510 in terms of the Swiss franc, from Sw.Frs.1.8577, but easing to DM.2.0577 against the D-mark, from DM.2.0627. The dollar fell to 200.25 against the Japanese yen, from 200.50, at around 222.50 for most of the day. The dollar's index, on Bank of England figures, rose to 80 from 78.3.

Gold fell \$1 to \$179.180 in

STERLING LOST ground in the foreign exchange market yesterday, on fears about a continuing deterioration in the UK economy following the pessimistic annual review of the Cambridge Economic Policy Group. The suggestion that unemployment may rise sharply in the future and that the trade performance of Britain will be very poor, led to selling pressure on the pound, but this was prob-

ably not met by any intervention by the Bank of England.

Sterling opened at \$1.5750-1.5760, and touched \$1.5800, the highest level of the day, before falling to \$1.5730 at lunch. Following the opening of the New York market the pound fell to a low point of \$1.5650, but improved slightly on late natural demand to close at \$1.5610-1.5620, a fall of 2.05 cents on the day, and the lowest closing level since mid-December last year.

The pound's trade-weighted index as calculated by the Bank of England, fell to 62.2 from 62.8, the lowest closing level since the end of August last year, after standing at 62.5 at noon and in early trading.

Forward selling was quite firm under the circumstances, although the longer periods were rather weaker.

The U.S. dollar showed mixed changes against major currencies, falling slightly to Sw.Frs.1.8510 in terms of the Swiss franc, from Sw.Frs.1.8577, but easing to DM.2.0577 against the D-mark, from DM.2.0627. The dollar fell to 200.25 against the Japanese yen, from 200.50, at around 222.50 for most of the day. The dollar's index, on Bank of England figures, rose to 80 from 78.3.

Gold fell \$1 to \$179.180 in

STERLING LOST ground in the foreign exchange market yesterday, on fears about a continuing deterioration in the UK economy following the pessimistic annual review of the Cambridge Economic Policy Group. The suggestion that unemployment may rise sharply in the future and that the trade performance of Britain will be very poor, led to selling pressure on the pound, but this was prob-

ably not met by any intervention by the Bank of England.

Sterling opened at \$1.5750-1.5760, and touched \$1.5800, the highest level of the day, before falling to \$1.5730 at lunch. Following the opening of the New York market the pound fell to a low point of \$1.5650, but improved slightly on late natural demand to close at \$1.5610-1.5620, a fall of 2.05 cents on the day, and the lowest closing level since mid-December last year.

The pound's trade-weighted index as calculated by the Bank of England, fell to 62.2 from 62.8, the lowest closing level since the end of August last year, after standing at 62.5 at noon and in early trading.

Forward selling was quite firm under the circumstances, although the longer periods were rather weaker.

The U.S. dollar showed mixed changes against major currencies, falling slightly to Sw.Frs.1.8510 in terms of the Swiss franc, from Sw.Frs.1.8577, but easing to DM.2.0577 against the D-mark, from DM.2.0627. The dollar fell to 200.25 against the Japanese yen, from 200.50, at around 222.50 for most of the day. The dollar's index, on Bank of England figures, rose to 80 from 78.3.

Gold fell \$1 to \$179.180 in

STERLING LOST ground in the foreign exchange market yesterday, on fears about a continuing deterioration in the UK economy following the pessimistic annual review of the Cambridge Economic Policy Group. The suggestion that unemployment may rise sharply in the future and that the trade performance of Britain will be very poor, led to selling pressure on the pound, but this was prob-

ably not met by any intervention by the Bank of England.

Sterling opened at \$1.5750-1.5760, and touched \$1.5800, the highest level of the day, before falling to \$1.5730 at lunch. Following the opening of the New York market the pound fell to a low point of \$1.5650, but improved slightly on late natural demand to close at \$1.5610-1.5620, a fall of 2.05 cents on the day, and the lowest closing level since mid-December last year.

The pound's trade-weighted index as calculated by the Bank of England, fell to 62.2 from 62.8, the lowest closing level since the end of August last year, after standing at 62.5 at noon and in early trading.

Forward selling was quite firm under the circumstances, although the longer periods were rather weaker.

The U.S. dollar showed mixed changes against major currencies, falling slightly to Sw.Frs.1.8510 in terms of the Swiss franc, from Sw.Frs.1.8577, but easing to DM.2.0577 against the D-mark, from DM.2.0627. The dollar fell to 200.25 against the Japanese yen, from 200.50, at around 222.50 for most of the day. The dollar's index, on Bank of England figures, rose to 80 from 78.3.

STOCK EXCHANGE REPORT

Markets subdued by talk of a rise in interest rates
Share index 0.4 off at 467.7—Gilt-edged give ground

Account Dealing Dates
First Declared Last Account
Dealing Date
Mar. 13 Mar. 30 Mar. 31 Apr. 11
Apr. 3 Apr. 13 Apr. 14 Apr. 25
Apr. 17 Apr. 27 Apr. 28 May 10

* New time "dealings may take place from 1.30 a.m. two business days earlier.

A lengthy list of company trading statements enlivened interest in an otherwise subdued day in stock markets. Growing concern about the possibility of an upward movement in short-term interest rates had an unsettling effect on underlying sentiment. British Funds were particularly affected and recorded losses extending to 1.3. The Government Securities Index gave ground for the fourth consecutive trading day, closing with a fall of 0.39 at 74.05.

Leading Equities ran out of steam after Wednesday's useful improvement, which was based mainly on a revival of Budget optimism. Potential buyers showed a marked reluctance and prices drifted lower in the absence of fresh support. The extent of the day's fall was only modest, as reflected in the FT 30-share index. This measure touched its lowest of the day at noon with a loss 1.5 at 466.6 and closed only 0.4 off on balance at 467.7. Against the trend, Lloyds stood out with a rise of 7 to 275 in response to the satisfactory interim statement. Overall, the trend was to higher levels with secondary issues being held by occasional new-time buyers. The Account starting next Monday. Among the sectors, Fire Purchase issues took a distinct turn for the worse, sentiment being unwelcome by fears of an increase in interest rates. The FT Actuaries Index for the session fell 2.5 per cent, to 137.0 compared with a loss of only 0.1 per cent, to 137.1 in the All-Share index.

Gold shares were round in the wake of a reaction in the bullion price. Lucas however were fairly modest and might be expected to mark the end of the Gold Mines index gave up 3.5 to 132.9.

Gilts nervous

Currency nerves began to fray late in British Funds and the after-hours dealings saw losses extending to 1.3 being registered. Earlier, the market had tentatively settled after the ease of recent days and although stock came on offer it was absorbed by a small demand which posted gains of 1 among several high-coupon issues. Sterling's afternoon performance, however, was a new worry of a possible hike in minimum lending rate and dealers began defensively lowering quotations in order to deter sell-off. This continued after the 3.30 p.m. close in both the short and longer maturities with the result that the final tone was looking weak. The mood in Corporations was also unsettled

but losses here were usually restricted to a few pence. Against a background of continuing sterling weakness, the investment currency premium made further upward progress. Institutional demand, still basically representing investment in U.S. securities, was the mainstay of a generally one-way business which culminated with the rate up 4 points at very near the day's best at 104 per cent. Yesterday's SE conversion factor was 0.6862 (0.6913).

Hire Purchases dull

Reflecting increasing concern about the possibility of a rise in interest and credit rates, Hire Purchases turned flat. Wagon Finance fell 6 to 810 and F. C. Finance relinquished 3 to 869 in a thin market, while UDT shed 3 to 409, after 35p, as did Lloyds and Scottish to 36p. Elsewhere, the major clearing banks closed with modest improvements after a thin trade. Lloyds and NatWest both improved a penny to the common level of 276p.

Jobs were seemingly unimpressed with Prudential's annual figures and the shares were closing 3 easier on balance at 160n. London and Manchester, however, on further consideration of the results and proposed 22n. dividend, added a penny more to 137p, while Pearl rose 4 to 244p following comment on the year's performance. Among Composites, Sun Alliance added forward 2 to 544p; the preliminary figures are due next Wednesday.

Building issues encountered a better trade, with selected secondary issues recording fair gains. Housebuilders Gough Copper attracted new-time buying and rose 4 to 88p, while a vague tip for Marchfield lifted the shares a further 8 to 276p for a three-day rise of 18. In contrast, Hallamshire improved 3 apiece to 221p and 138p respectively, while F. J. C. Liley, 5 up at 72p, responded to satisfactory preliminary results, as did Hiltop, which closed 2 better at 61p. Small buying added 21 more to Brown and Jackson, 32p, and in similar fashion, Higgs and Hill closed 12 to 244p. In contrast, Johnson-Richards, 11p, drifted back to 112p pending further developments in the Hepworth Ceramic bid situation. London Brick eased 1 to 241p.

In Chemicals, ICI closed without alteration, as did ICI Chemicals, while Wolskelholme, 138p, held the previous day's rise of 10 following good annual results.

House of Fraser lower

Leading Stores failed to follow Wednesday's Budget optimism and generally eased a shade on light profit-taking. House of Fraser at 145p sustained an above-average fall of 6 despite reporting preliminary profits which came at the top end of the expectations.

W. H. Smith A cheapened 4 to 100p and Combined English was a penny lower at 79p; the latter's annual figures are due on Monday. Elsewhere, House of Leroose gave up 4 to 87p in reaction to the disappointing results but S. & U. at 121p, retrieved half of Wednesday's fall of 7 which stemmed from adverse comment concerning its finance subsidiary. Speculative demand prompted a gain of 10 to 123p in A. G. Stanley, while Time Products added 4 at 125p and Home Cinema 3 to 119p. Freeman attracted buyers ahead Monday's results and rose 4 to 274p. Grattan Warehouses, results due on Tuesday, hardened a penny to 128p. In Shoes, Ward White touched 79p in response to the doubled annual earnings before closing a net 2 dearer at 79p.

Reckitt & Colman up

A lengthy list of company announcements enlivened interest in the otherwise lacklustre miscellaneous Industrials. Reckitt and Colman stood out with a gain of 10 to 423p, after 423p, in response

to the better-than-expected preliminary results, but Bridon sustained a fall of 10 to 99p on the profits-setback. Biddle moved up 5 to 84p despite reporting lower earnings for the year, while Wilton hardened a penny to 42p following the higher first-half profits.

Lower preliminary profits led to declines of 2 and 3 respectively in Bruntons Musselburgh, 104p, and BBA, 47p. Persistent investment support helped Sotherby Park rise more to 243p and revived interest lifted Siebe Gorman 4 to 182p. Apart from Beecham, 645p, and Glaxo, 33p, which improved a further 3 apiece, the leaders failed to repeat Wednesday's firm performance. Rank Organisation shed 3 to 244p and Boots gave up 2 to 215p as did Reed International, to 112p.

Interim profits expectedly lower but above best market estimates stimulated enthusiasm for Lucas Industries, which rose 3 to 42p, after a fall of 3 and closed a net 7 higher at 273p, after 277p; the accompanying statement about second-half prospects was also considered encouraging. News of the joint management and trade union study on productivity together with the capital proposals failed to stir British Leyland which remained at 22p. Commercial Vehicles showed little change apart from Plaxtons, 2 better at 197p peak of 72p, while Ley Service improved 1 to 74p in Garages. Occasional demand in a narrow market lifted Western Motor 5 to 93p.

In idle Newspapers, Thomson cheapened 2 to 208p in front of today's preliminary figures but Associated Book Publishers were marked up penny to 186p in response to the results. Mills and

Allen gave up a further 3 to 177p among Paper, Printings, and Stationery. Properties had an easier tendency on lack of interest. English Property failed to respond to increased annual revenue, and shaved a penny to 177p. Land Securities, 244p, and MFC, 124p, gave up 2 and 3 respectively, while Centrovital Estates, 73p, still reflecting poor first-half figures, eased a similar amount. Elsewhere, trading news left Winston Estates closed at 34p following satisfactory results. Oil lacked a bid, and continued light trading. Currency influences helped to keep British Petroleum on an even keel at 78p, while investment dollar considerations took Royal Dutch up 1 to 148p. Conversely, Shell closed in disinterested conditions, to 330p after Wednesday's bear squeeze and Ultramar slipped 2 to 223p.

At the company's request, dealings in London and Liverpool Trust were suspended towards the official close at 1p pending an announcement. Estates Duties Investment Trust put on 3 to 210p, while Davison Capital hardened 3 to 197p. Investment currency influences led to gains of 9 to 364p and 8 to 413p respectively in the sub shares of Robeco and Rollei Financials. R. P. Martin dropped to 31p and closed 5 down at 34p on the disappointing interim statement. Britannia Arrow firmed to 23p and ended 11p on balance at 221p. Nippon Fund Sterling gained 40 to 300p and Pretaball Slocum 11 to 58p, both helped by the firmer dollar premium.

T. & O. Deferred hardened a penny to 97p in otherwise easier Shipwrecks. Manchester Liners held steady at 220p following the lower profits, but the shares of the parent Furness Withly shed 4 to 182p. Other duals included Overseas Transport, 2 off at 125p after adverse Press comment, and Common Bro., 7 down at 128p. Lyle held steady at 124p ahead of today's results.

Traders were confident with Gilt and Duffus 9 up at 222p and S. and W. Berisford 6 higher at the same price, both being stimulated to some extent by their commodity interests. South Eastern Capital and London Ship were quoted ex the scrip issue in the next Account. Since Darby put on 3 to 130p and Paterson Zochonis A recovered 3 to 183p.

T. & O. Deferred hardened a penny to 97p in otherwise easier Shipwrecks. Manchester Liners held steady at 220p following the lower profits, but the shares of the parent Furness Withly shed 4 to 182p. Other duals included Overseas Transport, 2 off at 125p after adverse Press comment, and Common Bro., 7 down at 128p. Lyle held steady at 124p ahead of today's results.

Traders were confident with Gilt and Duffus 9 up at 222p and S. and W. Berisford 6 higher at the same price, both being stimulated to some extent by their commodity interests. South Eastern Capital and London Ship were quoted ex the scrip issue in the next Account. Since Darby put on 3 to 130p and Paterson Zochonis A recovered 3 to 183p.

T. & O. Deferred hardened a penny to 97p in otherwise easier Shipwrecks. Manchester Liners held steady at 220p following the lower profits, but the shares of the parent Furness Withly shed 4 to 182p. Other duals included Overseas Transport, 2 off at 125p after adverse Press comment, and Common Bro., 7 down at 128p. Lyle held steady at 124p ahead of today's results.

Traders were confident with Gilt and Duffus 9 up at 222p and S. and W. Berisford 6 higher at the same price, both being stimulated to some extent by their commodity interests. South Eastern Capital and London Ship were quoted ex the scrip issue in the next Account. Since Darby put on 3 to 130p and Paterson Zochonis A recovered 3 to 183p.

T. & O. Deferred hardened a penny to 97p in otherwise easier Shipwrecks. Manchester Liners held steady at 220p following the lower profits, but the shares of the parent Furness Withly shed 4 to 182p. Other duals included Overseas Transport, 2 off at 125p after adverse Press comment, and Common Bro., 7 down at 128p. Lyle held steady at 124p ahead of today's results.

Traders were confident with Gilt and Duffus 9 up at 222p and S. and W. Berisford 6 higher at the same price, both being stimulated to some extent by their commodity interests. South Eastern Capital and London Ship were quoted ex the scrip issue in the next Account. Since Darby put on 3 to 130p and Paterson Zochonis A recovered 3 to 183p.

T. & O. Deferred hardened a penny to 97p in otherwise easier Shipwrecks. Manchester Liners held steady at 220p following the lower profits, but the shares of the parent Furness Withly shed 4 to 182p. Other duals included Overseas Transport, 2 off at 125p after adverse Press comment, and Common Bro., 7 down at 128p. Lyle held steady at 124p ahead of today's results.

Traders were confident with Gilt and Duffus 9 up at 222p and S. and W. Berisford 6 higher at the same price, both being stimulated to some extent by their commodity interests. South Eastern Capital and London Ship were quoted ex the scrip issue in the next Account. Since Darby put on 3 to 130p and Paterson Zochonis A recovered 3 to 183p.

T. & O. Deferred hardened a penny to 97p in otherwise easier Shipwrecks. Manchester Liners held steady at 220p following the lower profits, but the shares of the parent Furness Withly shed 4 to 182p. Other duals included Overseas Transport, 2 off at 125p after adverse Press comment, and Common Bro., 7 down at 128p. Lyle held steady at 124p ahead of today's results.

Traders were confident with Gilt and Duffus 9 up at 222p and S. and W. Berisford 6 higher at the same price, both being stimulated to some extent by their commodity interests. South Eastern Capital and London Ship were quoted ex the scrip issue in the next Account. Since Darby put on 3 to 130p and Paterson Zochonis A recovered 3 to 183p.

T. & O. Deferred hardened a penny to 97p in otherwise easier Shipwrecks. Manchester Liners held steady at 220p following the lower profits, but the shares of the parent Furness Withly shed 4 to 182p. Other duals included Overseas Transport, 2 off at 125p after adverse Press comment, and Common Bro., 7 down at 128p. Lyle held steady at 124p ahead of today's results.

Traders were confident with Gilt and Duffus 9 up at 222p and S. and W. Berisford 6 higher at the same price, both being stimulated to some extent by their commodity interests. South Eastern Capital and London Ship were quoted ex the scrip issue in the next Account. Since Darby put on 3 to 130p and Paterson Zochonis A recovered 3 to 183p.

T. & O. Deferred hardened a penny to 97p in otherwise easier Shipwrecks. Manchester Liners held steady at 220p following the lower profits, but the shares of the parent Furness Withly shed 4 to 182p. Other duals included Overseas Transport, 2 off at 125p after adverse Press comment, and Common Bro., 7 down at 128p. Lyle held steady at 124p ahead of today's results.

Traders were confident with Gilt and Duffus 9 up at 222p and S. and W. Berisford 6 higher at the same price, both being stimulated to some extent by their commodity interests. South Eastern Capital and London Ship were quoted ex the scrip issue in the next Account. Since Darby put on 3 to 130p and Paterson Zochonis A recovered 3 to 183p.

T. & O. Deferred hardened a penny to 97p in otherwise easier Shipwrecks. Manchester Liners held steady at 220p following the lower profits, but the shares of the parent Furness Withly shed 4 to 182p. Other duals included Overseas Transport, 2 off at 125p after adverse Press comment, and Common Bro., 7 down at 128p. Lyle held steady at 124p ahead of today's results.

Traders were confident with Gilt and Duffus 9 up at 222p and S. and W. Berisford 6 higher at the same price, both being stimulated to some extent by their commodity interests. South Eastern Capital and London Ship were quoted ex the scrip issue in the next Account. Since Darby put on 3 to 130p and Paterson Zochonis A recovered 3 to 183p.

T. & O. Deferred hardened a penny to 97p in otherwise easier Shipwrecks. Manchester Liners held steady at 220p following the lower profits, but the shares of the parent Furness Withly shed 4 to 182p. Other duals included Overseas Transport, 2 off at 125p after adverse Press comment, and Common Bro., 7 down at 128p. Lyle held steady at 124p ahead of today's results.

Traders were confident with Gilt and Duffus 9 up at 222p and S. and W. Berisford 6 higher at the same price, both being stimulated to some extent by their commodity interests. South Eastern Capital and London Ship were quoted ex the scrip issue in the next Account. Since Darby put on 3 to 130p and Paterson Zochonis A recovered 3 to 183p.

T. & O. Deferred hardened a penny to 97p in otherwise easier Shipwrecks. Manchester Liners held steady at 220p following the lower profits, but the shares of the parent Furness Withly shed 4 to 182p. Other duals included Overseas Transport, 2 off at 125p after adverse Press comment, and Common Bro., 7 down at 128p. Lyle held steady at 124p ahead of today's results.

Traders were confident with Gilt and Duffus 9 up at 222p and S. and W. Berisford 6 higher at the same price, both being stimulated to some extent by their commodity interests. South Eastern Capital and London Ship were quoted ex the scrip issue in the next Account. Since Darby put on 3 to 130p and Paterson Zochonis A recovered 3 to 183p.

T. & O. Deferred hardened a penny to 97p in otherwise easier Shipwrecks. Manchester Liners held steady at 220p following the lower profits, but the shares of the parent Furness Withly shed 4 to 182p. Other duals included Overseas Transport, 2 off at 125p after adverse Press comment, and Common Bro., 7 down at 128p. Lyle held steady at 124p ahead of today's results.

Traders were confident with Gilt and Duffus 9 up at 222p and S. and W. Berisford 6 higher at the same price, both being stimulated to some extent by their commodity interests. South Eastern Capital and London Ship were quoted ex the scrip issue in the next Account. Since Darby put on 3 to 130p and Paterson Zochonis A recovered 3 to 183p.

T. & O. Deferred hardened a penny to 97p in otherwise easier Shipwrecks. Manchester Liners held steady at 220p following the lower profits, but the shares of the parent Furness Withly shed 4 to 182p. Other duals included Overseas Transport, 2 off at 125p after adverse Press comment, and Common Bro., 7 down at 128p. Lyle held steady at 124p ahead of today's results.

Traders were confident with Gilt and Duffus 9 up at 222p and S. and W. Berisford 6 higher at the same price, both being stimulated to some extent by their commodity interests. South Eastern Capital and London Ship were quoted ex the scrip issue in the next Account. Since Darby put on 3 to 130p and Paterson Zochonis A recovered 3 to 183p.

T. & O. Deferred hardened a penny to 97p in otherwise easier Shipwrecks. Manchester Liners held steady at 220p following the lower profits, but the shares of the parent Furness Withly shed 4 to 182p. Other duals included Overseas Transport, 2 off at 125p after adverse Press comment, and Common Bro., 7 down at 128p. Lyle held steady at 124p ahead of today's results.

Traders were confident with Gilt and Duffus 9 up at 222p and S. and W. Berisford 6 higher at the same price, both being stimulated to some extent by their commodity interests. South Eastern Capital and London Ship were quoted ex the scrip issue in the next Account. Since Darby put on 3 to 130p and Paterson Zochonis A recovered 3 to 183p.

T. & O. Deferred hardened a penny to 97p in otherwise easier Shipwrecks. Manchester Liners held steady at 220p following the lower profits, but the shares of the parent Furness Withly shed 4 to 182p. Other duals included Overseas Transport, 2 off at 125p after adverse Press comment, and Common Bro., 7 down at 128p. Lyle held steady at 124p ahead of today's results.

Traders were confident with Gilt and Duffus 9 up at 222p and S. and W. Berisford 6 higher at the same price, both being stimulated to some extent by their commodity interests. South Eastern Capital and London Ship were quoted ex the scrip issue in the next Account. Since Darby put on 3 to 130p and Paterson Zochonis A recovered 3 to 183p.

T. & O. Deferred hardened a penny to 97p in otherwise easier Shipwrecks. Manchester Liners held steady at 220p following the lower profits, but the shares of the parent Furness Withly shed 4 to 182p. Other duals included Overseas Transport, 2 off at 125p after adverse Press comment, and Common Bro., 7 down at 128p. Lyle held steady at 124p ahead of today's results.

Traders were confident with Gilt and Duffus 9 up at 222p and S. and W. Berisford 6 higher at the same price, both being stimulated to some extent by their commodity interests. South Eastern Capital and London Ship were quoted ex the scrip issue in the next Account. Since Darby put on 3 to 130p and Paterson Zochonis A recovered 3 to 183p.

T. & O. Deferred hardened a penny to 97p in otherwise easier Shipwrecks. Manchester Liners held steady at 220p following the lower profits, but the shares of the parent Furness Withly shed 4 to 182p. Other duals included Overseas Transport, 2 off at 125p after adverse Press comment, and Common Bro., 7 down at 128p. Lyle held steady at 124p ahead of today's results.

Traders were confident with Gilt and Duffus 9 up at 222p and S. and W. Berisford 6 higher at the same price, both being stimulated to some extent by their commodity interests. South Eastern Capital and London Ship were quoted ex the scrip issue in the next Account. Since Darby put on 3 to 130p and Paterson Zochonis A recovered 3 to 183p.

T. & O. Deferred hardened a penny to 97p in otherwise easier Shipwrecks. Manchester Liners held steady at 220p following the lower profits, but the shares of the parent Furness Withly shed 4 to 182p. Other duals included Overseas Transport, 2 off at 125p after adverse Press comment, and Common Bro., 7 down at 128p. Lyle held steady at 124p ahead of today's results.

Traders were confident with Gilt and Duffus 9 up at 222p and S. and W. Berisford 6 higher at the same price, both being stimulated to some extent by their commodity interests. South Eastern Capital and London Ship were quoted ex the scrip issue in the next Account. Since Darby put on 3 to 130p and Paterson Zochonis A recovered 3 to 183p.

T. & O. Deferred hardened a penny to 97p in otherwise easier Shipwrecks. Manchester Liners held steady at 220p following the lower profits, but the shares of the parent Furness Withly shed 4 to 182p. Other duals included Overseas Transport, 2 off at 125p after adverse Press comment, and Common Bro., 7 down at 128p. Lyle held steady at 124p ahead of today's results.

Traders were confident with Gilt and Duffus 9 up at 222p and S. and W. Berisford 6 higher at the same price, both being stimulated to some extent by their commodity interests. South Eastern Capital and London Ship were quoted ex the scrip issue in the next Account. Since Darby put on 3 to 130p and Paterson Zochonis A recovered 3 to 183p.

T. & O. Deferred hardened a penny to 97p in otherwise easier Shipwrecks. Manchester Liners held steady at 220p following the lower profits, but the shares of the parent Furness Withly shed 4 to 182p. Other duals included Overseas Transport, 2 off at 125p after adverse Press comment, and Common Bro., 7 down at 128p. Lyle held steady at 124p ahead of today's results.

Traders were confident with Gilt and Duffus 9 up at 222p and S. and W. Berisford 6 higher at the same price, both being stimulated to some extent by their commodity interests. South Eastern Capital and London Ship were quoted ex the scrip issue in the next Account. Since Darby put on 3 to 130p and Paterson Zochonis A recovered 3 to 183p.

T. & O. Deferred hardened a penny to 97p in otherwise easier Shipwrecks. Manchester Liners held steady at 220p following the lower profits, but the shares of the parent Furness Withly shed 4 to 182p. Other duals included Overseas Transport, 2 off at 125p after adverse Press comment, and Common Bro., 7 down at 128p. Lyle held steady at 124p ahead of today's results.

Traders were confident with Gilt and Duffus 9 up at 222p and S. and W. Berisford 6 higher at the same price, both being stimulated to some extent by their commodity interests. South Eastern Capital and London Ship were quoted ex the scrip issue in the next Account. Since Darby put on 3 to 130p and Paterson Zochonis A recovered 3 to 183p.

T. & O. Deferred hardened a penny to 97p in otherwise easier Shipwrecks. Manchester Liners held steady at 220p following the lower profits, but the shares of the parent Furness Withly shed 4 to 182p. Other duals included Overseas Transport, 2 off at 125p after adverse Press comment, and Common Bro., 7 down at 128p. Lyle held steady at 124p ahead of today's results.

Traders were confident with Gilt and Duffus 9 up at 222p and S. and W. Berisford 6 higher at the same price, both being stimulated to some extent by their commodity interests. South Eastern Capital and London Ship were quoted ex the scrip issue in the next Account. Since Darby put on 3 to 130p and Paterson Zochonis A recovered 3 to 183p.

T. & O. Deferred hardened a penny to 97p in otherwise easier Shipwrecks. Manchester Liners held steady at 220p following the lower profits, but the shares of the parent Furness Withly shed 4 to 182p. Other duals included Overseas Transport, 2 off at 125p after adverse Press comment, and Common Bro., 7 down at 128p. Lyle held steady at 124p ahead of today's results.

Traders were confident with Gilt and Duffus 9 up at 222p and S. and W. Berisford 6 higher at the same price, both being stimulated to some extent by their commodity interests. South Eastern Capital and London Ship were quoted ex the scrip issue in the next Account. Since Darby put on 3 to 130p and Paterson Zochonis A recovered 3 to 183p.

T. & O. Deferred hardened a penny to 97p in otherwise easier Shipwrecks. Manchester Liners held steady at 220p following the lower profits, but the shares of the parent Furness Withly shed 4 to 182p. Other duals included Overseas Transport, 2 off at 125p after adverse Press comment, and Common Bro., 7 down at 128p. Lyle held steady at 124p ahead of today's results.

Traders were confident with Gilt and Duffus 9 up at 222p and S. and W. Berisford 6 higher at the same price, both being stimulated to some extent by their commodity interests. South Eastern Capital and London Ship were quoted ex the scrip issue in the next Account. Since Darby put on 3 to 130p and Paterson Zochonis A recovered 3 to 183p.

T. & O. Deferred hardened a penny to 97p in otherwise easier Shipwrecks. Manchester Liners held steady at 220p following the lower profits, but the shares of the parent Furness Withly shed 4 to 182p. Other duals included Overseas Transport, 2 off at 125p after adverse Press comment, and Common Bro., 7 down at 128p. Lyle held steady at 124p ahead of today's results.

Traders were confident with Gilt and Duffus 9 up at 222p and S. and W. Berisford 6 higher at the same price, both being stimulated to some extent by their commodity interests. South Eastern Capital and London Ship were quoted ex the scrip issue in the next Account. Since Darby put on 3 to 130p and Paterson Zochonis A recovered 3 to 183p.

T. & O. Deferred hardened a penny to 97p in otherwise easier Shipwrecks. Manchester Liners held steady at 220p following the lower profits, but the shares of the parent Furness Withly shed 4 to 182p. Other duals included Overseas Transport, 2 off at 125p after adverse Press comment, and Common Bro., 7 down at 128p. Lyle held steady at 124p ahead of today's results.

Traders were confident with Gilt and Duffus 9 up at 222p and S. and W. Berisford 6 higher at the same price, both being stimulated to some extent by their commodity interests. South Eastern Capital and London Ship were quoted ex the scrip issue in the next Account. Since Darby put on 3 to 130p and Paterson Zochonis A recovered 3 to 183p.

T. & O. Deferred hardened a penny to 97p in otherwise easier Shipwrecks. Manchester Liners held steady at 220p following the lower profits, but the shares of the parent Furness Withly shed 4 to 182p. Other duals included Overseas Transport, 2 off at 125p after adverse Press comment, and Common Bro., 7 down at 128p. Lyle held steady at 124p ahead of today's results.

Traders were confident with Gilt and Duffus 9 up at 222p and S. and W. Berisford 6 higher at the same price, both being stimulated to some extent by their commodity interests. South Eastern Capital and London Ship were quoted ex the scrip issue in the next Account. Since Darby put on 3 to 130p and Paterson Zochonis A recovered 3 to 183p.

T. & O. Deferred hardened a penny to 97p in otherwise easier Shipwrecks. Manchester Liners held steady at 220p following the lower profits, but the shares of the parent Furness Withly shed 4 to 182p. Other duals included Overseas Transport, 2 off at 125p after adverse Press comment, and Common Bro., 7 down at 128p. Lyle held steady at 124p ahead of today's results.

Traders were confident with Gilt and Duffus 9 up at 222p and S. and W. Berisford 6 higher at the same price, both being stimulated to some extent by their commodity interests. South Eastern Capital and London Ship were quoted ex the scrip issue in the next Account. Since Darby put on 3 to 130p and Paterson Zochonis A recovered 3 to 183p.

T. & O. Deferred hardened a penny to 97p in otherwise easier Shipwrecks. Manchester Liners held steady at 220p following the lower profits, but the shares of the parent Furness Withly shed 4 to 182p. Other duals included Overseas Transport, 2 off at 125p after adverse Press comment, and Common Bro., 7 down at 128p. Lyle held steady at 124p ahead of today's results.

Traders were confident with Gilt and Duffus 9 up at 222p and S. and W. Berisford 6 higher at the same price, both being stimulated to some extent by their commodity interests. South Eastern Capital and London Ship were quoted ex the scrip issue in the next Account. Since Darby put on 3 to 130p and Paterson Zochonis A recovered 3 to 183p.

T. & O. Deferred hardened a penny to 97p in otherwise easier Shipwrecks. Manchester Liners held steady at 220p following the lower profits, but the shares of the parent Furness Withly shed 4 to 182p. Other duals included Overseas Transport, 2 off at 125p after adverse Press comment, and Common Bro., 7 down at 128p. Lyle held steady at 124p ahead of today's results.

Traders were confident with Gilt and Duffus 9 up at 222p and S. and W. Berisford 6 higher at the same price, both being stimulated to some extent by their commodity interests. South Eastern Capital and London Ship were quoted ex the scrip issue in the next Account. Since Darby put on 3 to 130p and Paterson Zochonis A recovered 3 to 183p.

T. & O. Deferred hardened a penny to 97p in otherwise easier Shipwrecks. Manchester Liners held steady at 220p following the lower profits, but the shares of the parent Furness Withly shed 4 to 182p. Other duals included Overseas Transport, 2 off at 125p after adverse Press comment, and Common Bro., 7 down at 128p. Lyle held steady at 124p ahead of today's results.

Traders were confident with Gilt and Duffus 9 up at 222p and S. and W. Berisford 6 higher at the same price, both being stimulated to some extent by their commodity interests. South Eastern Capital and London Ship were quoted ex the scrip issue in the next Account. Since Darby put on 3 to 130p and Paterson Zochonis A recovered 3 to 183p.

T. & O. Deferred hardened a penny to 97p in otherwise easier Shipwrecks. Manchester Liners held steady at 220p following the lower profits, but the shares of the parent Furness Withly shed 4 to 182p. Other duals included Overseas Transport, 2 off at 125p after adverse Press comment, and Common Bro., 7 down at 128p. Lyle held steady at 124p ahead of today's results.

Traders were confident with Gilt and Duffus 9 up at 222p and S. and W. Berisford 6 higher at the same price, both being stimulated to some extent by their commodity interests. South Eastern Capital and London Ship were quoted ex the scrip issue in the next Account. Since Darby put on 3 to 130p and Paterson Zochonis A recovered 3 to 183p.

T. & O. Deferred hardened a penny to 97p in otherwise easier Shipwrecks. Manchester Liners held steady at 220p following the lower profits, but the shares of the parent Furness Withly shed 4 to 182p. Other duals included Overseas Transport, 2 off at 125p after adverse Press comment, and Common Bro., 7

OFFSHORE AND OVERSEAS FUNDS

[illegible]

Avonlin Equity Ltd. \$57,861	1.9%		Net asset March 28.	
E.T. Managers (Jersey) Ltd.			S. C. Warburg & Co. Ltd.	
O Bos 194 Royal Tr. Bco. June 25/41	\$7461		30 Graham Street, E.C.2.	
Jerry Elect Ltd. (JSE)	235.0		Cm-Bd Feb. 22	\$559.52
As at Feb. 28. Next sat. day Mar. 31.			Sp. Int. Mar. 22	\$555.50
Ordline Planning (P.L.)	12.0		Wor. Exch. Feb. 22	\$555.50
Rh. Floor, Connaught Centre, Hong Kong			Mar. Exch. Feb. 22	137.1
Ordline Est. Tr.	\$12,000.00	3.48	Warburg Invest. Mgmt. Jry. Ltd.	
Ordline Jny. Pk.	\$15,000.00	3.48	30 Graham St., S. Heller, Jy. Ltd.	6084 77/41
Ordline S.E.A.	\$15,000.00	2.50	Cmf. Feb. 23	113.67
NVA Mar. 18. Contingent \$50,000			Cmf. Feb. 23	113.67
Next sat. day Mar. 31.			Wor. Exch. Mar. 18	113.67
Channing-Gee Management Jersey Ltd.			Mf. Mar. 9	119.18
Leasing-Coe, S. Heller, Jersey, 0534 77/41			World Wide Growth Management	
Champ Geo Capital	18.8	85.0	10c, Beuton and Royal, Luxembourg.	
Champ Geo Income	18.8	85.0	Weidenste Gth Fnd. \$1,513.00	+0.67*

NOTES

* These do not include § premium, except where indicated & are in pence unless otherwise stated.
 † Yield % indicated. Yields % shown in last column allow for all buying expenses. ‡ Offered prices exclude all expenses + Tender's price + Yield based on offer price + Estimated † To day's performance.
 § Selling price + Inclusion fee of 0.5 basis + Performance commission. Insurance plans, a South American insurance. † Offered prices included all expenses except agent's commission.
 * Offering price includes all expenses if bought through company + Previous day's price.
 Net of tax on realised capital gains unless indicated by a. † Guarantees credit's Suspended.
 ‡ Yield before Jersey tax. † £20 subscription.

CLIVE INVESTMENTS LIMITED

† Royal Exchange Ave., London EC3V 3LU. Tel.: 01-283 1101.
 Index Guide as at 21st March, 1978 (Base 100 at 14.1.77).
 Clive Fixed Interest Capital 135.42
 Clive Fixed Interest Income 122.34

CORAL INDEX: Close 464-469

INSURANCE BASE RATES*

† Property Growth 7½%
 ‡ Vanburgh Guaranteed 7.12%
 * Address shown under Insurance and Property Bond Table

INDUSTRIALS—Continued

Stock	Price	Div	Yield	Vol
Aluminium	100.00	1.00	1.00	100
British Steel	120.00	1.20	1.00	120
British Petroleum	150.00	1.50	1.00	150
British Airways	180.00	1.80	1.00	180
British Telecom	200.00	2.00	1.00	200
British Overseas Airways	220.00	2.20	1.00	220
British Airways	240.00	2.40	1.00	240
British Airways	260.00	2.60	1.00	260
British Airways	280.00	2.80	1.00	280
British Airways	300.00	3.00	1.00	300

INSURANCE—Continued

Stock	Price	Div	Yield	Vol
London & Lancashire	100.00	1.00	1.00	100
London & Lancashire	120.00	1.20	1.00	120
London & Lancashire	140.00	1.40	1.00	140
London & Lancashire	160.00	1.60	1.00	160
London & Lancashire	180.00	1.80	1.00	180
London & Lancashire	200.00	2.00	1.00	200
London & Lancashire	220.00	2.20	1.00	220
London & Lancashire	240.00	2.40	1.00	240
London & Lancashire	260.00	2.60	1.00	260
London & Lancashire	280.00	2.80	1.00	280

PROPERTY—Continued

Stock	Price	Div	Yield	Vol
British Land	100.00	1.00	1.00	100
British Land	120.00	1.20	1.00	120
British Land	140.00	1.40	1.00	140
British Land	160.00	1.60	1.00	160
British Land	180.00	1.80	1.00	180
British Land	200.00	2.00	1.00	200
British Land	220.00	2.20	1.00	220
British Land	240.00	2.40	1.00	240
British Land	260.00	2.60	1.00	260
British Land	280.00	2.80	1.00	280

INV. TRUSTS—Continued

Stock	Price	Div	Yield	Vol
British Investment Trust	100.00	1.00	1.00	100
British Investment Trust	120.00	1.20	1.00	120
British Investment Trust	140.00	1.40	1.00	140
British Investment Trust	160.00	1.60	1.00	160
British Investment Trust	180.00	1.80	1.00	180
British Investment Trust	200.00	2.00	1.00	200
British Investment Trust	220.00	2.20	1.00	220
British Investment Trust	240.00	2.40	1.00	240
British Investment Trust	260.00	2.60	1.00	260
British Investment Trust	280.00	2.80	1.00	280

FINANCE, LAND—Continued

Stock	Price	Div	Yield	Vol
British Finance	100.00	1.00	1.00	100
British Finance	120.00	1.20	1.00	120
British Finance	140.00	1.40	1.00	140
British Finance	160.00	1.60	1.00	160
British Finance	180.00	1.80	1.00	180
British Finance	200.00	2.00	1.00	200
British Finance	220.00	2.20	1.00	220
British Finance	240.00	2.40	1.00	240
British Finance	260.00	2.60	1.00	260
British Finance	280.00	2.80	1.00	280

MOTORS, AIRCRAFT TRADES

Stock	Price	Div	Yield	Vol
British Motors	100.00	1.00	1.00	100
British Motors	120.00	1.20	1.00	120
British Motors	140.00	1.40	1.00	140
British Motors	160.00	1.60	1.00	160
British Motors	180.00	1.80	1.00	180
British Motors	200.00	2.00	1.00	200
British Motors	220.00	2.20	1.00	220
British Motors	240.00	2.40	1.00	240
British Motors	260.00	2.60	1.00	260
British Motors	280.00	2.80	1.00	280

MINES—Continued

Stock	Price	Div	Yield	Vol
British Mines	100.00	1.00	1.00	100
British Mines	120.00	1.20	1.00	120
British Mines	140.00	1.40	1.00	140
British Mines	160.00	1.60	1.00	160
British Mines	180.00	1.80	1.00	180
British Mines	200.00	2.00	1.00	200
British Mines	220.00	2.20	1.00	220
British Mines	240.00	2.40	1.00	240
British Mines	260.00	2.60	1.00	260
British Mines	280.00	2.80	1.00	280

DAIWA BANK

Head Office: Osaka, Japan

CENTRAL AFRICAN

Stock	Price	Div	Yield	Vol
Central African	100.00	1.00	1.00	100
Central African	120.00	1.20	1.00	120
Central African	140.00	1.40	1.00	140
Central African	160.00	1.60	1.00	160
Central African	180.00	1.80	1.00	180
Central African	200.00	2.00	1.00	200
Central African	220.00	2.20	1.00	220
Central African	240.00	2.40	1.00	240
Central African	260.00	2.60	1.00	260
Central African	280.00	2.80	1.00	280

AUSTRALIAN

Stock	Price	Div	Yield	Vol
Australian	100.00	1.00	1.00	100
Australian	120.00	1.20	1.00	120
Australian	140.00	1.40	1.00	140
Australian	160.00	1.60	1.00	160
Australian	180.00	1.80	1.00	180
Australian	200.00	2.00	1.00	200
Australian	220.00	2.20	1.00	220
Australian	240.00	2.40	1.00	240
Australian	260.00	2.60	1.00	260
Australian	280.00	2.80	1.00	280

TINS

Stock	Price	Div	Yield	Vol
Tins	100.00	1.00	1.00	100
Tins	120.00	1.20	1.00	120
Tins	140.00	1.40	1.00	140
Tins	160.00	1.60	1.00	160
Tins	180.00	1.80	1.00	180
Tins	200.00	2.00	1.00	200
Tins	220.00	2.20	1.00	220
Tins	240.00	2.40	1.00	240
Tins	260.00	2.60	1.00	260
Tins	280.00	2.80	1.00	280

COPPER

Stock	Price	Div	Yield	Vol
Copper	100.00	1.00	1.00	100
Copper	120.00	1.20	1.00	120
Copper	140.00	1.40	1.00	140
Copper	160.00	1.60	1.00	160
Copper	180.00	1.80	1.00	180
Copper	200.00	2.00	1.00	200
Copper	220.00	2.20	1.00	220
Copper	240.00	2.40	1.00	240
Copper	260.00	2.60	1.00	260
Copper	280.00	2.80	1.00	280

MISCELLANEOUS

Stock	Price	Div	Yield	Vol
Miscellaneous	100.00	1.00	1.00	100
Miscellaneous	120.00	1.20	1.00	120
Miscellaneous	140.00	1.40	1.00	140
Miscellaneous	160.00	1.60	1.00	160
Miscellaneous	180.00	1.80	1.00	180
Miscellaneous	200.00	2.00	1.00	200
Miscellaneous	220.00	2.20	1.00	220
Miscellaneous	240.00	2.40	1.00	240
Miscellaneous	260.00	2.60	1.00	260
Miscellaneous	280.00	2.80	1.00	280

NOTES

Notes on the financial statements and other relevant information.

TEAS

Stock	Price	Div	Yield	Vol
Teas	100.00	1.00	1.00	100
Teas	120.00	1.20	1.00	120
Teas	140.00	1.40	1.00	140
Teas	160.00	1.60	1.00	160
Teas	180.00	1.80	1.00	180
Teas	200.00	2.00	1.00	200
Teas	220.00	2.20	1.00	220
Teas	240.00	2.40	1.00	240
Teas	260.00	2.60	1.00	260
Teas	280.00	2.80	1.00	280

INDIA AND BANGLADESH

Stock	Price	Div	Yield	Vol
India and Bangladesh	100.00	1.00	1.00	100
India and Bangladesh	120.00	1.20	1.00	120
India and Bangladesh	140.00	1.40	1.00	140
India and Bangladesh	160.00	1.60	1.00	160
India and Bangladesh	180.00	1.80	1.00	180
India and Bangladesh	200.00	2.00	1.00	200
India and Bangladesh	220.00	2.20	1.00	220
India and Bangladesh	240.00	2.40	1.00	240
India and Bangladesh	260.00	2.60	1.00	260
India and Bangladesh	280.00	2.80	1.00	280

SRI LANKA

Stock	Price	Div	Yield	Vol
Sri Lanka	100.00	1.00	1.00	100
Sri Lanka	120.00	1.20	1.00	120
Sri Lanka	140.00	1.40	1.00	140
Sri Lanka	160.00	1.60	1.00	160
Sri Lanka	180.00	1.80	1.00	180
Sri Lanka	200.00	2.00	1.00	200
Sri Lanka	220.00	2.20	1.00	220
Sri Lanka	240.00	2.40	1.00	240
Sri Lanka	260.00	2.60	1.00	260
Sri Lanka	280.00	2.80	1.00	280

AFRICA

Stock	Price	Div	Yield	Vol
Africa	100.00	1.00	1.00	100
Africa	120.00	1.20	1.00	120
Africa	140.00	1.40	1.00	140
Africa	160.00	1.60	1.00	160
Africa	180.00	1.80	1.00	180
Africa	200.00	2.00	1.00	200
Africa	220.00	2.20	1.00	220
Africa	240.00	2.40	1.00	240
Africa	260.00	2.60	1.00	260
Africa	280.00	2.80	1.00	280

MINES

Stock	Price	Div	Yield	Vol
Mines	100.00	1.00	1.00	100
Mines	120.00	1.20	1.00	120
Mines	140.00	1.40	1.00	140
Mines	160.00	1.60	1.00	160
Mines	180.00	1.80	1.00	180
Mines	200.00	2.00	1.00	200
Mines	220.00	2.20	1.00	220
Mines	240.00	2.40	1.00	240
Mines	260.00	2.60	1.00	260
Mines	280.00	2.80	1.00	280

CENTRAL RAND

Stock	Price	Div	Yield	Vol
Central Rand	100.00	1.00	1.00	100
Central Rand	120.00	1.20	1.00	120
Central Rand	140.00	1.40	1.00	140
Central Rand	160.00	1.60	1.00	160
Central Rand	180.00	1.80	1.00	180
Central Rand	200.00	2.00	1.00	200
Central Rand	220.00	2.20	1.00	220
Central Rand	240.00	2.40	1.00	240
Central Rand	260.00	2.60	1.00	260
Central Rand	280.00	2.80	1.00	280

EASTERN RAND

Stock	Price	Div	Yield	Vol
Eastern Rand	100.00	1.00	1.00	100
Eastern Rand	120.00	1.20	1.00	120
Eastern Rand	140.00	1.40	1.00	140
Eastern Rand	160.00	1.60	1.00	160
Eastern Rand	180.00	1.80	1.00	180
Eastern Rand	200.00	2.00	1.00	200
Eastern Rand	220.00	2.20	1.00	220
Eastern Rand	240.00	2.40	1.00	240
Eastern Rand	260.00	2.60	1.00	260
Eastern Rand	280.00	2.80	1.00	280

FAR WEST RAND

Stock	Price	Div	Yield	Vol
Far West Rand	100.00	1.00	1.00	100
Far West Rand	120.00	1.20	1.00	120
Far West Rand	140.00	1.40	1.00	140
Far West Rand	160.00	1.60	1.00	160
Far West Rand	180.00	1.80	1.00	180
Far West Rand	200.00	2.00	1.00	200
Far West Rand	220.00	2.20	1.00	220
Far West Rand	240.00	2.40	1.00	240
Far West Rand	260.00	2.60	1.00	260
Far West Rand	280.00	2.80	1.00	280

O.F.S.

62	"Impe"	7	Unilever
ent	18	20	Utd. Drapery
9	I.C.F.		Vickers
10	Inver...		Woolworths
Bank	1		
25	Ladbroke	17	
38	Legal & Gen.	14	Property
Log	Lex Service		Brit. Land
15	Lords Bank	22	Cap. Counties
16	"Lots"		E.P.
24	London Brick	2	InterEuropean
1	Lonrho	2	Land Secs.
26	Luxor	13	MEPC
1	Luxor Inds.	25	

Northern attack on London plan for more jobs

By Anthony Moreton, Regional Affairs Editor

THE GREATER London Council was accused yesterday of trying to undermine the Government's regional policy by sponsoring a Bill in the Commons which would make it easier for companies to set up or expand within the 10 inner London boroughs.

Mr. John Hobbs, director of the North of England Development Council, said that the Greater London (General Powers) Bill, which has been through committee and is now in the queue awaiting a third reading, made a mockery of regional policy.

"We are very concerned at this move," he said. "Regional policy is designed to create a more balanced industrial nation and this Bill is against that whole concept. Given regional policy, I find it surprising this is happening. The rules are being changed and we should be told just what they are."

Pressure

In London, Mr. Hobbs was criticised for his comments and for a letter sent to the NEDC to all 40 northern MPs seeking their support in opposing the Bill.

Miss Shelagh Roberts, Tory leader of the GLC's planning and communications policy committee, said that Mr. Hobbs was "talking through his hat." It was no longer the case that London was as prosperous as it had been. "Parts of inner London have a higher rate of unemployment than that of the North East. It is high time that we caught up with the facts as they are. It is absolutely imperative that London has the ability to attract business and commerce. I hope the Government resists any pressure to prevent us having these powers."

The Government is known to be unhappy about one aspect of the Bill, which would allow the GLC to make certain loans. It opposed the clause in committee but was outvoted.

It is also unlikely to be happy about publicising being given to the Bill in the north. Ministers believe that their regional policy has gone a long way towards creating jobs for the assisted regions by steering firms away from the Midlands and the South East in particular.

Loans

Ironically, the GLC's Bill stated life two years ago when the council was Labour controlled and it is surprising that opposition should have emerged at this late stage.

Its clauses allow the GLC to build advance factories, make loans of up to 90 per cent. for the purchase or lease of building land, take a non-controlling equity interest in a firm, guarantee the rent of an industrial building and spend money on publicity.

Last night support for the action of the NEDC came in Newcastle from MPs of all parties, who said they would watch the Bill closely when it came up for third reading.

Problem of urban decay, Page 12

Armed police kill two in new Iran riots

TEHRAN, March 30. A NEW WAVE of rioting and attacks on the police broke out in several parts of Iran today leaving at least two dead and seven wounded.

In Yazd, about 310 miles south-east of here, at least two people died when police opened fire on rioters breaking bank windows and attacking police with knives and stones. Reuter

Continued from Page 1

City launches securities body

Industry by the new council would, according to the Bank of England yesterday, comprise: (a) the framing and amendment of codes of conduct and the consideration of proposed U.K. and E.C. legislation; and (b) the administration and enforcement of the Take-over Code and of any other codes and practices that may be established.

A markets committee is to be formed under the council to carry out the task of reviewing existing codes, including that on take-overs, and recommending any required new ones. Membership of the committee will be drawn from the council, but with the possible inclusion of other people from the City interests represented on it.

The markets committee would also aim to resolve differences between different parts of the securities industry, particularly over the interpretation of codes of conduct.

While the staff of the new council, perhaps numbering half a dozen, has yet to be formed, the Take-over Panel already has members long accustomed to considering regulatory problems and long-established executive staff.

Higher pensions plan causes Cabinet split

BY PETER RIDDELL, ECONOMICS CORRESPONDENT

PROPOSALS to increase pensions and some social security benefits more than is legally required have led to a clash in the Cabinet.

The Department of Health and Social Security has proposed a 14 per cent. increase in the basic retirement pension in mid-November at the time of the usual annual uprating. This would mean a weekly pension of £20 for a single person and £22 for a married couple.

This suggestion is being opposed by the Treasury which wants an increase of only 11 per cent.

The argument has become part of the wider Cabinet debate—to be resolved at a meeting next Tuesday—about how much of the contingency reserve for additional public spending in the next financial year should be committed now.

It is also clearly overshadowed by the political discussion about what should be offered ahead of a possible October election.

The Treasury has its view on the 1979 Social Security Act, under which pensions and other long-term social security benefits should rise each year in line with the increase in earnings or prices, whichever is the greater.

The official estimate is that the average earnings will rise by 11 per cent. and retail prices by 8 per cent. in the year to this autumn. The increase in the real value of pensions in November implied by this formula has been allowed for in the existing public spending plans.

However, the further rise proposed by Mr. David Lunn and Mr. Stan Orme, the two social services ministers in the Cabinet, would mean a 14 per cent. contingency reserve of £110m. in the next financial year and of roughly £250m. in 1979-80.

They argue that an increase in the basic retirement pension—in the 11 per cent. range—would be announced either in the April 11 budget or in May as last year—to a round figure of £20 for a single person would have a favourable electoral impact and would represent a needed shift of resources.

The Treasury argues that basic pension increase alone that is indicated by the formula would produce an undesirable ratchet effect, establishing a permanently higher base for future rises.

There is believed to be considerable sympathy for this view among ministers.

The Treasury believes the Government should be cautious about increasing the real value of social security payments and the extra implied load on the tax

burden, especially as the number of pensioners is rising.

It is also pointed out that there has been a redistribution in favour of pensioners in recent years, with the real value of pensions rising by 16 per cent. in the four years to November 1977.

A compromise plan has also been suggested, under which the basic single person's pension would rise by 12 per cent., costing about £45m. in 1978-79.

There is no disagreement about the uprating of short-term social security payments, notably unemployment and sickness benefits, by 8 per cent. in line with the projected rate of inflation.

The higher uprating of pensions is being opposed by the Treasury in view of the other calls for additional spending. These already amount to slightly more than the whole £750m. contingency reserve, of which nearly £350m. has already been committed.

Treasury Ministers want to limit the commitment of the reserve to between £300m. and £350m. at this stage.

The latest view is that a rise in child benefits in November is more likely to be accepted by the Cabinet than the full proposed rise in pensions.

Minister not ready to intervene in Fleet Street

BY PAULINE CLARK, LABOUR STAFF

THE Fleet Street labour crisis goes into its fifth day this morning with little hope of an early solution to the dispute affecting London national newspaper supplies or an end to the engineers' action which has lost the Times Newspapers group some 3m. copies this week.

The Federation of London Wholesaler Distributors appealed to Mr. Len Murray, general secretary of the TUC, asking him to persuade the Society of Graphical and Allied Trades, the union involved in the distributors' dispute, to go to arbitration.

But the Department of Employment said in a statement that Mr. Albert Booth, Secretary for Employment, was unwilling to intervene at this stage because of the "counter-productive" to the negotiations now taking place.

Mr. Booth, who was said to be constantly in touch with the situation, was responding to a call by Mr. James Prior, Conservative spokesman on employment, for Government intervention.

Mr. Prior referred to a "very damaging dispute which must be quickly resolved." He argued that since the pay policy was the central issue, the Minister should call the parties together so that mediation could begin.

Members of the wholesalers' federation met in the morning for further talks on the refusal of members of SOGAT to handle national newspapers for London distribution in support of an overtime claim.

They then spent more than an hour with the Newspaper Publishers' Association, but neither meeting produced plans or talks with union leaders today.

Mr. Bill Keys, general secretary of SOGAT, was scheduled to fly to Scotland last night for an internal union meeting.

A new formula aimed at avoiding a breach of the Government guidelines in the overtime claim was presented by the union to the employers' discussions.

The NPA said after yesterday's meeting that it stood by the firm line taken by the wholesalers in refusing to make a payment above the 10 per cent. limit.

The federation stated last night that SOGAT members had already been offered a 10 per cent. increase on the overtime payments in dispute with a promise to talk about possible productivity arrangements. But it refused to subsidise overtime payments for handling late national newspaper copies which were normally reimbursed by the publishers.

SOGAT members who earn £100-plus a week with overtime making up a significant part of their wage packet have already refused arbitration, although this is part of the dispute procedure.

There was also no sign yesterday of moves towards a solution to the separate dispute involving members of the Amalgamated Union of Engineering Workers employed by Times Newspapers.

A meeting of union national area and chapel officers was said to have produced no new proposals for a return to work in spite of a recent management offer to hold productivity talks.

The group has lost all production of The Times this week and also issues of the Sunday Times. The Times Educational Supplement and the Literary Supplement.

The Guardian, which uses The Times presses in London, has also been affected, although it continues to produce its Manchester editions.

Bonn takes friendlier attitude to U.S. economic problems

BY JONATHAN CARR

BONN, March 30.

THE United States and West Germany today began detailed preparations for the Western Economic Summit Conference in Bonn in July.

Mr. Henry Owen, personal assistant to President Carter, discussed the agenda with Count Otto Lambsdorff, the Economics Minister. He will meet Chancellor Helmut Schmidt next week.

He has arrived at a time when Bonn-Washington relations have improved markedly—not least because of Herr Schmidt's recent public references to the inviolability of the alliance between the two countries.

The West German side is also happy about this month's accord with the Americans to help stabilise the dollar, and the apparent willingness to do more if needed. Almost nothing is now heard among officials about "benign neglect" of the U.S. currency.

The problem which provoked the mutual criticism earlier this year—that of growth prospects for the West German economy—still remains.

The Germans are gradually coming round to the view which the Americans have held for some time, in spite of reassurances from Bonn: that 3.5 per cent. real gross national product growth will not be possible this year after last year's 4.5 per cent.

Herr Schmidt last week expressed doubts whether the aim could be achieved because of currency unrest since the 1973 targets were downed up. Today, Count Lambsdorff cited this year's tough work round, accompanied by strikes, as another reason why the growth figure would probably have to be revised.

Mr. Owen is unlikely to receive an immediate indication of what Bonn will do to help make up the lost ground.

The Federation of German Industry today urged new tax cuts—though this is only one of a series of steps open to the Government which could be taken under a package deal at the July summit.

Bonn welcomes U.S. pact, Page 3

The Accepting Houses Committee, the Association of Investment Trust Companies, the British Insurance Association, the Consultative Committee of Accountancy Bodies, the Committee of London Clearing Bankers, the Confederation of British Industry, the National Association of Pension Funds and the Unit Trust Association.

The Bank of England will also have a seat and more members could be co-opted to it from time to time. Representation is also to be invited from the foreign banks in London and from licensed dealers in securities.

Mr. David Macdonald, director-general of the Take-over Panel, and Mr. Jeffrey Knight, the deputy chief executive of the Stock Exchange, will act as advisers to the council and its chairman, while keeping their existing appointments.

Other objectives include maintaining arrangements for the investigation of cases of alleged misconduct within the securities industry.

Leyland tops U.K. market with 28%

By Arthur Smith, Midlands Correspondent

LEYLAND CARS has regained leadership of the U.K. market from Ford this month with more than 28 per cent. of total sales—a dramatic recovery from the 21 per cent. level at the beginning of the year.

Mr. Ray Horrocks, joint managing director of BL Cars, announced what he termed "the good news" in London last night. But he went on to give a warning of the long-term danger to Europe's native car manufacturers posed by the Japanese and the American multi-nationals.

He was particularly harsh in his comments about "the Japanese onslaught" and raised the prospect that Europe might have to erect some form of import restrictions.

Time would tell whether the Japanese would honour their commitment to limit sales.

Mr. Horrocks said he preferred to take on the Japanese in a free market. But, he added: "For too long, while Britain played to the rules, the Japanese have raised the game so they could not lose and we could not win. So it may well be that Europe will be forced to fight off the Japanese onslaught with some form of import restrictions."

Mr. Horrocks also posed the question of what would happen to the Continental motor industry as the American domestic manufacturers switched their enormous production capacity over to European-style models in the interest of fuel economy.

If we are to stand up to the new wave of competition from the Japanese and the Americans then the European manufacturers must work more closely together," he said.

Companies did not need to sink their identities into an anonymous European car, there were important areas where manufacturers could pool resources for the design and manufacture of common components, such as engines and transmissions.

"I am confident that a resurgent British Leyland will play its part," Mr. Horrocks said. Leyland has been holding discussions with Renault about common components.

Mr. Horrocks said for BL cars the biggest problem would be to raise productivity to the level of its European competitors.

There was also no sign yesterday of moves towards a solution to the separate dispute involving members of the Amalgamated Union of Engineering Workers employed by Times Newspapers.

A meeting of union national area and chapel officers was said to have produced no new proposals for a return to work in spite of a recent management offer to hold productivity talks.

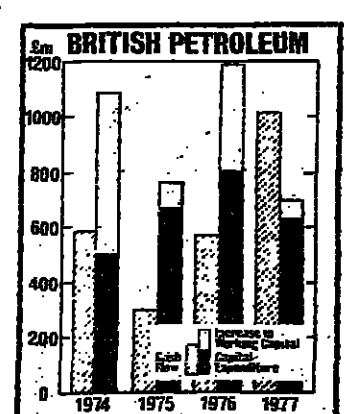
The group has lost all production of The Times this week and also issues of the Sunday Times. The Times Educational Supplement and the Literary Supplement.

The Guardian, which uses The Times presses in London, has also been affected, although it continues to produce its Manchester editions.

THE LEX COLUMN

Lucas fights its £11m. handicap

Index fell 0.4 to 467.7



There are no nasty surprises in the Lucas half-time figures. The drop of £7.1m. pre-tax to £27.6m. is more than explained by the £11m. cost of the tool-makers' strike last summer, and the Lucas share price was strong yesterday—at 275p it has regained a third of the 100p drop to 240p between September and the beginning of March. Confidence within the group has been largely repaired by the fast improving trend, which has led to internal estimates of sales and profits in February—the first month of the current half-year—being well up on the comparable 1977 figures, and the interim statement is talking cheerfully about recent firm demand being maintained. If operations continue to tick over smoothly there is a chance that Lucas will make good the shortfall during the second half, which would require some £50m. before tax for February-July against £42.6m.

A strong demand for vehicle equipment in Europe is the key factor. Leyland business is recovering some of its former volume thanks to much higher sales. Fortunately, Reckitt's North and South American business moved ahead well and along with Africa these three areas contributed close to 90 per cent. of the profit improvement. However, there is still no real sign that Reckitt's heavy investment in its "wonder drug" is paying off.

English Property

Cutting through the maze of figures, the picture revealed by yesterday's annual report from English Property Corporation is far from encouraging. According to the group balance sheet net borrowings, at £53m., are no less than 8 times shareholders' funds, against maybe 7 times last year. Of this, £14m. must be repaid or refinanced within the next five years. Even if the Canadian (Carena and Trizec) activities are excluded the borrowings multiple is over three, and up on last year.

Pre-tax profits are up a quarter at £9.3m. and after tax the improvement is still 20 per cent. But that is only after following the unusual accounting rules widely adopted by the British property industry. For example, £20m. of interest has been capitalised on the grounds that it relates to development properties, while a £12m. deficit on the U.K. property valuation has also gone straight to the balance sheet, as have extra-

ordinary charges of £6.6m. On the other hand, EPC has not considered it necessary to write a £33m. deficit on Brussels office developments into the balance sheet: the report suffers a qualification from auditors Stoy Hayward as a result.

Although capital commitments already contracted for amount to only £22m., the EPC Board informs shareholders that it has additionally authorised £70m. for capital spending "when financial and other arrangements have been satisfactorily concluded."

House of Fraser

In common with Woolworth, which reported earlier this month, House of Fraser has enjoyed a bumper fourth quarter. Although sales growth slackened to just 10 per cent., the final three months, pre-tax profits are a fifth higher, for the full year are £3.5m. ahead at £36.2m. (including a £1.5m. surplus on property sales).

Like Woolworth, House of Fraser has been keeping a tight control on operating costs—it negotiated a 10 per cent. annual pay increase last July. However, whereas last year it was the London stores that were setting the pace, with Harrods reporting sales increases of over 50 per cent., the emphasis has now switched to the provincial outlets where sales volumes are now reportedly running around a tenth higher in some cases. Consequently, House of Fraser's profits should show another healthy increase in the current year but with two-thirds of the profits arising in the final quarter it is much too early to forecast the extent of the improvement. At 145p the shares yield 3.0 per cent.

BP

The oil majors' first disclosures in the area of segmental reporting are proving distinctly tentative. BP, for example, coyly butters a veil in its annual report and reveals the devastating information that 96 per cent. of its operating profits come from petroleum, with around 3 per cent. from chemicals. Assets, by way of contrast, are elaborately broken down between production, tankers, refineries, marketing and chemicals. There are no corresponding profit disclosures, but when pressed BP will admit that it would be better off if it did not own any ships or operate any refineries.

Question time and Budget stars of 'Radio Commons'

BY RUPERT CORNWELL, LOBBY STAFF

THE twice-weekly sessions of Prime Minister's question time and the Charterhouse April 11 Budget are the star attractions of the initial phase of permanent sound broadcasting of the Commons which starts on Monday.

The BBC and IRN, the independent radio news service which will provide Parliamentary coverage for commercial television and radio stations, yesterday announced plans and both are confident they will achieve a significant rise in audiences.

The first live item will be Welsh questions on Monday afternoon, exactly two years and three months after the four-week broadcasting experiment in June and July of 1975, when more than 2.2m. people tuned in to the inaugural programme from the Commons.

Mr. Peter Hardiman-Scott, chief assistant to the director-general of the BBC, said yesterday that live radio would be "part of the continuing reform of Parliament" and help strengthen the country's democratic workings. He hoped that television would follow, perhaps within five years.

Both services will be run from temporary headquarters at 1, Bridge Street, immediately opposite Big Ben. Both plan a flexible mix of direct coverage of Parliamentary highlights and recorded extracts for radio and TV news programmes, as well as for special daily bulletins of Commons proceedings.

Weather

U.K. TO-DAY
RAIN spreading from W. Wales, Isle of Man, S.W. Scotland, brighter later. Rather warm in parts of S.

W. Midlands, Channel Isles, Wales, Isle of Man, S.W. Scotland, Argyll, N. Ireland
Rain at times, becoming brighter. Wind fresh to strong. S. to S.E., veering S.W. Max. 11C (52F).

N.E. England, Borders, Edinburgh, Dundee, Glasgow, N.W. Scotland
Bright, occasional rain later. Wind S. to S.E., fresh or strong. Max. 10C (50F).

Outlook: Sunny periods, showers in N. and W., more general rain later.

BUSINESS CENTRES

Mid-day			Mid-day		
Amsterdam	C 19	40	Madrid	F 10	30
Bahran	C 28	40	Manila	F 10	30
Bombay	C 28	40	Medan	F 10	30
Buenos Aires	C 28	40	Montevideo	F 10	30
Cairo	C 28	40	Nairobi	F 10	30
Calcutta	C 28	40	San Jose	F 10	30
Canton	C 28	40	Singapore	F 10	30
Cebu	C 28	40	Sourabaya	F 10	30
Colon	C 28	40	Taipei	F 10	30
Hankow	C 28	40	Tokyo	F 10	30
Hong Kong	C 28	40	Yokohama	F 10	30
Kobe	C 28	40			
London	C 28	40			
Lyons	C 28	40			
Manila	C 28	40			
Medan	C 28	40			
Montevideo	C 28	40			
Nairobi	C 28	40			
San Jose	C 28	40			
Singapore	C 28	40			
Sourabaya	C 28	40			
Taipei	C 28	40			
Tokyo	C 28	40			
Yokohama	C 28	40			

Y-day			Y-day		
Algeria	R 15	59	Las Palmas	C 17	65
Alexandria	R 15	59	Majorca	C 17	65
Batavia	R 15	59	Malaga	C 17	65
Bombay	R 15	59	Manila	C 17	65
Buenos Aires	R 15	59	Nairobi	C 17	65
Calcutta	R 15	59	San Jose	C 17	65
Canton	R 15	59	Singapore	C 17	65
Cebu	R 15	59	Sourabaya	C 17	65
Colon	R 15	59	Taipei	C 17	65
Hankow	R 15	59	Tokyo	C 17	65
Hong Kong	R 15	59	Yokohama	C 17	65
Kobe	R 15	59			
London	R 15	59			
Lyons	R 15	59			
Manila	R 15	59			
Medan	R 15	59			
Montevideo	R 15	59			
Nairobi	R 15	59			
San Jose	R 15	59			
Singapore	R 15	59			
Sourabaya	R 15	59			
Taipei	R 15	59			
Tokyo	R 15	59			
Yokohama	R 15	59			

Y-day			Y-day		
Algeria	R 15	59	Las Palmas	C 17	65
Alexandria	R 15	59	Majorca	C 17	65
Batavia	R 15	59	Malaga	C 17	65
Bombay	R 15	59	Manila	C 17	65
Buenos Aires	R 15	59	Nairobi	C 17	65
Calcutta	R 15	59	San Jose	C 17	65
Canton	R 15	59	Singapore	C 17	65
Cebu	R 15	59	Sourabaya	C 17	65
Colon	R 15	59	Taipei	C 17	65
Hankow	R 15	59	Tokyo	C 17	65
Hong Kong	R 15	59	Yokohama	C 17	65
Kobe	R 15	59			
London	R 15	59			
Lyons	R 15	59			
Manila	R 15	59			
Medan	R 15	59			
Montevideo	R 15	59			
Nairobi	R 15	59			
San Jose	R 15	59			
Singapore	R 15	59			
Sourabaya	R 15	59			
Taipei	R 15	59			
Tokyo	R 15	59			
Yokohama	R 15	59			

Y-day			Y-day		
Algeria	R 15	59	Las Palmas	C 17	65
Alexandria	R 15	59	Majorca	C 17	65
Batavia	R 15	59	Malaga	C 17	65
Bombay	R 15	59	Manila	C 17	65
Buenos Aires	R 15	59	Nairobi	C 17	65
Calcutta	R 15	59	San Jose	C 17	65
Canton	R 15	59	Singapore	C 17	65
Cebu	R 15	59	Sourabaya	C 17	65
Colon	R 15	59	Taipei	C 17	65
Hankow	R 15	59	Tokyo	C 17	65
Hong Kong	R 15	59	Yokohama	C 17	65
Kobe	R 15	59			
London	R 15	59			
Lyons	R 15	59			
Manila	R 15	59			
Medan	R 15	59			
Montevideo	R 15	59			
Nairobi	R 15	59			
San Jose	R 15	59			
Singapore	R 15	59			
Sourabaya	R 15	59			
Taipei	R 15	59			
Tokyo	R 15	59			
Yokohama	R 15	59			

Y-day			Y-day		
Algeria	R 15	59	Las Palmas	C 17	65
Alexandria	R 15	59	Majorca	C 17	65
Batavia	R 15	59	Malaga	C 17	65
Bombay	R 15	59	Manila	C 17	65
Buenos Aires	R 15	59	Nairobi	C 17	65
Calcutta	R 15	59	San Jose	C 17	65
Canton	R 15	59	Singapore	C 17	65
Cebu	R 15	59	Sourabaya	C 17	65
Colon	R 15	59	Taipei	C 17	65
Hankow	R 15	59	Tokyo	C 17	65
Hong Kong	R 15	59	Yokohama	C 17	65
Kobe	R 15	59			
London	R 15	59			
Lyons	R 15	59			
Manila	R 15	59			
Medan	R 15	59			
Montevideo	R 15	59			
Nairobi	R 15	59			
San Jose	R 15	59			
Singapore	R 15	59			
Sourabaya	R 15	59			
Taipei	R 15	59			
Tokyo	R 15	59			
Yokohama	R 15	59			

Y-day			Y-day		
Algeria	R 15	59	Las Palmas	C 17	65
Alexandria	R 15	59	Majorca	C 17	65
Batavia	R 15	59	Malaga	C 17	65
Bombay	R 15	59	Manila	C 17	65
Buenos Aires	R 15	59	Nairobi	C 17	65
Calcutta	R 15	59	San Jose	C 17	65
Canton	R 15	59	Singapore	C 17	65
Cebu	R 15	59	Sourabaya	C 17	65
Colon	R 15	59	Taipei	C 17	65
Hankow	R 15	59	Tokyo	C 17	65
Hong Kong	R 15	59	Yokohama	C 17	65
Kobe	R 15	59			
London	R 15	59			
Lyons	R 15	59			
Manila	R 15	59			
Medan	R 15	59			
Montevideo	R 15	59			
Nairobi	R 15	59			
San Jose	R 15	59			
Singapore	R 15	59			
Sourabaya	R 15	59			
Taipei	R 15	59			
Tokyo	R 15	59			
Yokohama	R 15	59			

Y-day			Y-day		
Algeria	R 15	59	Las Palmas	C 17	65
Alexandria	R 15	59	Majorca	C 17	65
Batavia	R 15	59	Malaga	C 17	65
Bombay	R 15	59	Manila	C 17	65
Buenos Aires	R 15	59	Nairobi	C 17	65
Calcutta	R 15	59	San Jose	C 17	65
Canton	R 15	59	Singapore	C 17	65
Cebu	R 15	59	Sourabaya	C 17	65
Colon	R 15	59	Taipei	C 17	65
Hankow	R 15	59	Tokyo	C 17	65
Hong Kong	R 15	59	Yokohama	C 17	65
Kobe	R 15	59			
London	R 15	59			
Lyons	R 15	59			
Manila	R 15	59			
Medan	R 15	59			
Montevideo	R 15	59			
Nairobi	R 15	59			
San Jose	R 15	59			
Singapore	R 15	59			
Sourabaya	R 15	59			
Taipei	R 15	59			
Tokyo	R 15	59			
Yokohama	R 15	59			

Y-day			Y-day		
Algeria	R 15	59	Las Palmas	C 17	65
Alexandria	R 15	59	Majorca	C 17	65
Batavia	R 15	59	Malaga	C 17	65
Bombay	R 15	59	Manila	C 17	65
Buenos Aires	R 15	59	Nairobi	C 17	65
Calcutta	R 15	59	San Jose	C 17	65
Canton	R 15	59	Singapore	C 17	65
Cebu	R 15	59	Sourabaya	C 17	65
Colon	R 15	59	Taipei	C 17	65
Hankow	R 15	59	Tokyo	C 17	65
Hong Kong	R 15	59	Yokohama	C 17	65
Kobe	R 15	59			
London	R 15	59			
Lyons	R 15	59			
Manila	R 15	59			
Medan	R 15	59			
Montevideo	R 15	59			
Nairobi	R 15	59			
San Jose	R 15	59			
Singapore	R 15	59			
Sourabaya	R 15	59			
Taipei	R 15	59			
Tokyo	R 15	59			
Yokohama	R 15	59			

Y-day			Y-day		
Algeria	R 15	59	Las Palmas	C 17	65
Alexandria	R 15	59	Majorca	C 17	65
Batavia	R 15	59	Malaga	C 17	65
Bombay	R 15	59	Manila	C 17	65
Buenos Aires	R 15	59	Nairobi	C 17	65
Calcutta	R 15	59	San Jose	C 17	65
Canton	R 15	59	Singapore	C 17	65
Cebu	R 15	59	Sourabaya	C 17	65
Colon	R 15	59	Taipei	C 17	65
Hankow	R 15	59	Tokyo	C 17	65
Hong Kong	R 15	59	Yokohama	C 17	65
Kobe	R 15	59			
London	R 15	59			
Lyons	R 15	59			
Manila	R 15	59			
Medan	R 15	59			
Montevideo	R 15	59			
Nairobi	R 15	59			
San Jose	R 15	59			
Singapore	R 15	59			
Sourabaya	R 15	59			
Taipei	R 15	59			
Tokyo	R 15	59			
Yokohama	R 15	59			

Y-day			Y-day		
Algeria	R 15	59	Las Palmas	C 17	65
Alexandria	R 15	59	Majorca	C 17	65
Batavia	R 15	59	Malaga	C 17	65
Bombay	R 15	59	Manila	C 17	65
Buenos Aires	R 15	59	Nairobi	C 17	65
Calcutta	R 15	59	San Jose	C 17	65
Canton	R 15	59	Singapore	C 17	65
Cebu	R 15	59	Sourabaya	C 17	65
Colon	R 15	59	Taipei	C 17	65
Hankow	R 15	59	Tokyo	C 17	65
Hong Kong	R 15	59	Yokohama	C 17	65
Kobe	R 15	59			
London	R 15	59			
Lyons	R 15	59			
Manila	R 15	59			
Medan	R 15	59			
Montevideo	R 15	59			
Nairobi	R 15	59			
San Jose	R 15	59			
Singapore	R 15	59			
Sourabaya	R 15	59			
Taipei	R 15	59			
Tokyo	R 15	59			
Yokohama	R 15	59			

Y-day			Y-day		
Algeria	R 15	59	Las Palmas	C 17	65
Alexandria	R 15	59	Majorca	C 17	65
Batavia	R 15	59	Malaga	C 17	65
Bombay	R 15	59	Manila	C 17	65
Buenos Aires	R 15	59	Nairobi	C 17	65
Calcutta	R 15	59	San Jose	C 17	65
Canton	R 15	59	Singapore	C 17	65
Cebu	R 15	59	Sourabaya	C 17	65
Colon	R 15	59	Taipei	C 17	65
Hankow	R 15	59	Tokyo	C 17	65
Hong Kong	R 15	59	Yokohama	C 17	65
Kobe	R 15	59			
London	R 15	59			
Lyons	R 15	59			
Manila	R 15	59			
Medan	R 15	59			
Montevideo	R 15	59			
Nairobi	R 15	59			
San Jose	R 15	59			
Singapore	R 15	59			
Sourabaya	R 15	59			
Taipei	R 15	59			
Tokyo	R 15	59			
Yokohama	R 15	59			

Y-day			Y-day		
Algeria	R 15	59	Las Palmas	C 17	65
Alexandria	R 15	59	Majorca	C 17	65
Batavia	R 15	59	Malaga	C 17	65
Bombay	R 15	59	Manila	C 17	65
Buenos Aires	R 15	59	Nairobi	C 17	65
Calcutta	R 15	59	San Jose	C 17	65
Canton	R 15	59	Singapore	C 17	65
Cebu	R 15	59	Sourabaya	C 17	65
Colon	R 15	59	Taipei	C 17	65
Hankow	R 15	59	Tokyo	C 17	65
Hong Kong	R 15	59	Yokohama	C 17	65
Kobe	R 15	59			
London	R 15	59			
Lyons	R 15	59			
Manila	R 15	59			
Medan	R 15	59			
Montevideo	R 15	59			
Nairobi	R 15	59			

Fly to Toronto or Montreal any day of the week!

Air Canada in collaboration with British Airways flies direct to Toronto and non-stop to Montreal any day of the week you choose. Twelve flights a week from Heathrow, and nine of them are non-stop.

All the flights are in comfortable wide-bodied jets like the TriStar. And Air Canada serves 31 destinations throughout Canada—plus a further 10 in the USA. So fly Air Canada all the way.

Contact your travel agent, now, or call Air Canada on: London: 01-759 2636 Glasgow: 041-332 1511



Registered at the Post Office as Second Class Newspaper. Published by The Financial Times Ltd., 1, Abchurch Lane, London EC4N 3DF. © The Financial Times Ltd.